BLM

Record of Decision and Approved Resource Management Plan for the Lander Field Office Planning Area

Wyoming Wind River Bighorn Basin District – Lander Field Office

NATIONAL SYSTEM OF PUBLIC LANDS
U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

June 2014

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Record of Decision and Approved Resource Management Plan for the Lander Field Office Planning Area

June 2014

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Acronyms and Abbreviations

μg/m^3:
micrograms per cubic meter

ACEC:
Area of Critical Environmental Concern

AUM:
animal unit month

BLM:
Bureau of Land Management

BMP:
best management practice

CDNST:
Continental Divide National Scenic Trail

CFR:
Code of Federal Regulations

CH_4:
methane

COA:
Condition of Approval

COT:
Conservation Objectives Team

CSU:
Controlled Surface Use

DDA:
Designated Development Area

DDCT:
Density Disturbance Calculation Tool

DEQ:
Department of Environmental Quality

EA:
Environmental Assessment

EIS:
Environmental Impact Statement

ERMA:
Extensive Recreation Management Areas

ESA:
Endangered Species Act

FLPMA:
Federal Land Policy and Management Act

FR:
Federal Register

GIS:
Geographic Information System

HMA:
Herd Management Area

IMPLAN:
Impact Analysis for Planning

kV:
kilovolt

MLP:
Master Leasing Plan

N/A:
Not Applicable

NEPA:
National Environmental Policy Act

NHT:
National Historic Trail

NO_x:
nitrogen oxides

NRCS:
Natural Resources Conservation Service

NSO:
No Surface Occupancy

NTMC:
National Trails Management Corridor

OHV:
off-highway vehicle

PAC:
Priority Area of Conservation

PM$_{10}$:
particulate matter less than 10 microns in diameter

PM$_{2.5}$:
particulate matter less than 2.5 microns in diameter

ppb:
parts per billion

RHT&EH:
Regional Historic Trails and Early Highways

RMP:
Resource Management Plan

RMZ:
Recreation Management Zone

ROD:
Record of Decision

ROW:
Right-of-Way

SRMA:
Special Recreation Management Area

TCP:
Traditional Cultural Property

U.S.:
United States

U.S.C.:
United States Code

USFS:
United States Forest Service

USFWS:
United States Fish and Wildlife Service

VOC:
volatile organic compound

VRM:
Visual Resource Management

WGFD:
Wyoming Game and Fish Department

WSA:
Wilderness Study Area

WSR:
Wild and Scenic River

RECORD OF DECISION and APPROVED LANDER RESOURCE MANAGEMENT PLAN

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
LANDER FIELD OFFICE

In cooperation with:
Carbon County Commission
Fremont County Commission
Hot Springs County Commission
Sweetwater County Commission
Dubois-Crowheart Conservation District
Lower Wind River Conservation District
Natrona County Conservation District
Popo Agie Conservation District
Sweetwater County Conservation District
National Park Service
U.S. Fish and Wildlife Service

The State of Wyoming including:
Office of the Governor
Office of State Lands and Investments
Department of Agriculture
Department of Environmental Quality
State Parks, Historic Sites, and Trails
Game and Fish Department
Oil and Gas Conservation Commission
State Engineer's Office
State Geological Survey
State Historic Preservation Office
State Planning Office

Field Manager's Recommendation: Having considered a full range of alternatives, associate effects, and public input, I recommend adoption and implementation of the attached Lander Resource Management Plan (RMP).

Richard Vander Voet, Lander Field Manager	Date

I concur.

Steven Dondero, Wind River/Bighorn Basin District Manager	Date

Approval: I approve the attached Lander RMP as recommended. This document meets the requirements for a Record of Decision as provided in 40 Code of Federal Regulations (CFR) Part 1505.2 and for the RMP as described in 43 CFR Part 1610.0–5(k)

Donald A. Simpson, Wyoming State Director	Date

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Executive Summary

This Record of Decision (ROD) and Approved Resource Management Plan (RMP) were prepared by the Bureau of Land Management (BLM) Lander Field Office and provide overall management direction for resources on BLM-administered land in the Lander Field Office planning area, Wyoming. These documents are the result of a multi-year planning effort to revise the 1987 Lander Field Office RMP by the BLM Washington Office, Wyoming State Office, Wind River/Bighorn Basin District, and Lander Field Office, cooperating agencies, special interest and user groups, and concerned citizens. The decisions outlined in these documents will enable the BLM to manage the lands and resources administered by the Lander Field Office planning area to achieve the desired future conditions and management objectives in partnership with communities and citizens. The planning area is located in west-central Wyoming and includes approximately 6.6 million acres of land in Fremont, Natrona, Carbon, Sweetwater, Hot Springs, and Teton counties. Although Teton County is within the administrative boundary for the Lander Field Office, no BLM-administered surface or mineral estate occurs in Teton County and, therefore, no management is proposed for the lands in this county. Within the planning area, the BLM administers approximately 2.4 million acres of surface estate and 2.8 million acres of federal mineral estate.

The ROD documents the approval of the Approved RMP, describes the modifications and clarifications made to the Proposed RMP after release of the Final Environmental Impact Statement (EIS), presents an overview of the alternatives considered in the Proposed RMP and Final EIS, provides rationale for the decision, identifies mitigation and the monitoring plan, and describes the public involvement process, consultation and coordination conducted during the planning process. The Approved RMP presents the purpose and need for revision of the 1987 Lander Field Office RMP, planning issues considered and addressed, overall vision for the Approved RMP, management decisions, and how the Approved RMP will be implemented and evaluated. The ROD and Approved RMP are supported by appendices, glossary, maps, and references.

Ninety-nine percent of the planning area for the Lander RMP Revision is within occupied habitat for greater sage-grouse and 70 percent of the planning area is identified as priority habitat. Based on the identified threats to greater sage-grouse and the U.S. Fish and Wildlife Service (USFWS) timeline for reviewing its listing decision on this species, the BLM initiated the National Greater Sage-Grouse Planning Strategy to nationally incorporate objectives and adequate conservation measures into RMPs by the end of 2014. The National Greater Sage-Grouse Planning Strategy requires evaluating the adequacy of RMPs and addressing, as necessary, revisions, such as the Lander RMP, and amendments to incorporate greater sage-grouse conservation measures throughout their range.

Greater Sage-Grouse Conservation Strategy Summary

In February 2013, the USFWS published the Greater Sage-Grouse Conservation Objectives Final Report (COT Report) [1]. The purpose of the COT Report, which was developed in conjunction with state wildlife agencies in the species' range, was to identify threats to the greater sage-grouse throughout its range and conservation measures, based on the best available scientific information available at that time, to address those threats in order to conserve the species. The COT Report cites many of the references the BLM used in preparing the Lander Proposed RMP and Final EIS, such as the Connelly and Hagen references (Connelly et al. 2000, Hagen et al. 2007) in Management Action 6069. The Wyoming Governor's Core Area Strategy, also cited in the report, was adopted in the Proposed RMP and Final EIS as the BLM's mechanism to address conservation of greater sage-grouse habitat. In addition, threats identified in the COT Report and the USFWS's 2010 greater sage-grouse warranted but precluded decision (75 Federal Register [FR] 13910) were addressed in the Proposed RMP and Final EIS at page 417.[2]

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[1] U.S. Fish and Wildlife Service. 2013. Greater Sage-Grouse Conservation Objectives: Final Report. U.S. Fish and Wildlife Service, Denver, CO. February 2013.

While the COT Report recommended that impacts to all sage-grouse habitat be avoided to the maximum extent possible, it also identified Priority Areas for Conservation (PACs) as "key areas across the landscape that are necessary to maintain redundant, representative, and resilient populations" of the species. The COT Report describes maintaining the integrity of PACs as "the essential foundation for sage-grouse conservation." The COT Report identifies the Wyoming portion of the Wyoming Basin greater sage-grouse population (which includes the Lander Field Office planning area) as low risk given the size of the population, the presence of large, contiguous habitats, and regulatory measures providing habitat protection.

PACs cover nearly 73 million acres across the west of which more than two million acres, or 3 percent, is within the Lander Field Office planning area. More than 75 percent of the PAC areas in the planning area are administered by Lander Field Office. Based upon 2007 lek counts, and the population data contained in the COT Report, the Lander Field Office planning area contains an estimated six percent of the range-wide population of greater sage-grouse.[3] Table 1, "Greater Sage-Grouse Habitat within the Lander Planning Area" (p. 4) provides estimates for the greater sage-grouse habitat within the Lander planning area.

Table 1. Greater Sage-Grouse Habitat within the Lander Planning Area

Populations / Subpopulations: ***Wyoming Basin, Wyoming Portion***			
Population/Subpopulation Statistics ***(For the portion of the population that lies within the planning area.)***			
Acreage by Surface Ownership		**Acreage by Habitat Type**	
Ownership	**Acres**	**Habitat Type**	**Acres/Percent of Planning Area (All ownership)**
Private	563,390	WAFWA Management Zone	*II*
State	259,542	Priority Habitat / PACs/ Core Area	2,160,067 *68%*
BLM	2,348,032	General Habitat	987,968 *31%*

[2] As explained in Chapter 1 of the Final EIS, the Lander RMP is part of a broader west-wide effort to incorporate appropriate conservation measures for greater sage-grouse into Land Use Plans. For purposes of consistency across the effort, this document refers extensively to the COT Report, which was released after the Final EIS for this plan. As described in Appendix M (p. 333), that report compiled science considered and analyzed in the Draft and Final Lander EIS.

[3] Recognizing that populations are difficult to estimate, the estimated population percentage is provided for comparative purposes based upon the range-wide data provided in the USFWS's COT Report (Table 4). Other calculation methods and data sources indicate as much as 20 percent of the range-wide population is in the Lander Field Office planning area.

Populations / Subpopulations: ***Wyoming Basin, Wyoming Portion***			
Population/Subpopulation Statistics ***(For the portion of the population that lies within the planning area.)***			
Acreage by Surface Ownership		**Acreage by Habitat Type**	
Ownership	**Acres**	**Habitat Type**	**Acres/Percent of Planning Area (All ownership)**
USFS	None	Non-Habitat	36,570 *1%*
BLM Bureau of Land Management PAC Priority Areas for Conservation USFS U.S. Forest Service WAFWA Western Association of Fish and Wildlife Agencies			

The COT Report identified PACs based upon the data provided by State Fish and Game agencies. The State of Wyoming manages sage-grouse and sage-grouse habitats consistent with Governor's Executive Order 2011-05, *Greater Sage-Grouse Core Area Protection* (Core Area Strategy), which establishes Core Areas. In the Lander Field Office, Core Areas are geographically identical to priority habitat and PACs. Wyoming's Core Area Strategy includes protective measures for activities to avoid impacts to sage-grouse breeding, nesting, brood-rearing, and wintering habitat, and core population areas; these include protective measures for oil and gas development, mining, and wind energy development. Examples of Core Area protective measures include: surface disturbance in Core Areas will not, except in limited circumstances, exceed 5 percent of suitable habitat within the area determined by the Density Disturbance Calculation Tool, which is described below; one disturbance (e.g., well pad or mining site) per square mile; no surface occupancy within 0.6 miles of an occupied lek[4] for protection of lek related activities; timing and seasonal stipulations prohibiting surface disturbing and disruptive activities throughout Core Areas for the protection of breeding, nesting, brood-rearing and winter concentration areas; vegetation removal; and reclamation of surface disturbances. These protective measures operate cumulatively within Core Areas.

The Wyoming Core Area Strategy applies to all land ownerships whenever a state permit is necessary. It defines a permitting process that prescribes a Density Disturbance Calculation Tool. The Density Disturbance Calculation Tool is used to calculate existing disturbances and determine whether additional disturbances may be permitted in accordance with the density and disturbance restrictions prescribed in the Wyoming Core Area Strategy. The Density Disturbance Calculation Tool uses 1-meter resolution aerial imagery to calculate existing disturbances to the highest possible rate of precision. The Wyoming Core Area Strategy also has an adaptive management element to address local conditions and limitations with the goal to minimize disturbances.

The Approved RMP is consistent with the Core Area Strategy, but contains additional restrictions to protect other resources, which results in added protections to sage-grouse habitat and achieving sage-grouse conservation objectives identified in the COT Report on BLM-managed public lands. The COT Report indicates that the Core Area Strategy is a substantial regulatory mechanism that contributes to the conservation of greater sage-grouse and has reduced the threat risk to the Wyoming portion of the Wyoming Basin population.

Summary of Potential Threats Facing the Population (as identified in the COT Report)

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[4] The 0.6 mile buffer is based upon Wallestad and Schladweiler (1974), who, working with radio-equipped males in Montana, found that 76% of movements during the breeding period occurred within 1 kilometer (0.6 mile) of leks (Braun et al. 1977; Lyon 2000; Holloran 2005).

To capture the variability in potential threats and population resilience across the range, the authors of the COT Report assessed the presence of potential threats to each population. The adequacy of the response to these potential threats will be an important factor in determining whether or not to list the greater sage-grouse as threatened or endangered. The Lander Field Office managed lands are entirely within the Wyoming portion of the Wyoming Basin population. The Lander planning area contains approximately 15 percent of the Wyoming Basin population. The COT Report describes this population as follows:

> This large population covers approximately two-thirds of the State of Wyoming. It extends into Montana, Idaho, Utah and Colorado (Utah and Colorado portions are described separately). The population is separated from adjacent populations by distance and topography (Garton et al. 2011). Sage-grouse habitats are expansive and relatively intact outside of areas of energy development. Despite the long-term declines in populations, implementation of the Wyoming Governor's Executive Order for sage-grouse may help alleviate these declines. The primary potential threats to this portion of the population are energy development and transfer, including both renewable and non-renewable resources, long-term drought, and brush eradication programs. Declines of sage-grouse near oil and gas fields in this area have been well documented (Lyon 2000; Holloran 2005; Holloran and Anderson 2005; Kaiser 2006). Residential development has also been identified as a threat. Recent conservation actions, including the Wyoming Governor's Executive Order designating protective stipulations for core areas (PACs) and the implementation of conservation easements within these areas have reduced the threat risk to this area. Designated state core areas (PACs) adequately capture redundancy and representation for the Wyoming portion of this population. Due to the large size of this population, the presence of large, contiguous habitats, and regulatory measures providing habitat protection, this population is considered low risk.

The COT Report evaluated potential threats to greater sage-grouse by population and characterized those potential threats as "threat is present and widespread," "threat present but localized," "threat is not known to be present," and "unknown." In the COT Report, potential threats were assessed by members of the COT, representing various state fish and wildlife agencies and the USFWS, based on known occurrence of potential threats, existing management strategies, and professional experience. For additional discussion on the potential threats to greater sage-grouse, refer to the USFWS's 2010 warranted but precluded finding (75 FR 13910).

The discussion below summarizes how the conservation measures in the Lander Field Office Approved RMP address the potential threats described by the COT Report, Table 2, as "present and widespread" for the Wyoming portion of the Wyoming Basin population.

Threat 1: Energy Development

- *Potential energy development threats identified in the COT Report*: The COT Report states, "The increasing demand for renewable and non-renewable energy resources is resulting in continued development within the greater sage-grouse range, resulting in habitat loss, fragmentation, direct and indirect disturbance. Development results in sage-grouse population declines."
- *Potential existing energy development threats in the Lander Planning Area PACs*: Oil and gas development in the Lander planning area is primarily located outside of priority habitat.

This is a result of the combination of the continued focus of developers in established oil and gas fields and implementation of the Core Area Strategy in 2008, which has led developers to implement horizontal drilling strategies with surface disturbance focused outside of PACs. Approximately 1.7 million acres of priority habitat has low-to-no oil and gas potential. Approximately 1.4 million acres, or 75 percent, of priority habitat has no sand and gravel potential. The planning area is currently not open to oil shale-tar sands mining. While there is limited potential for wind energy development within the planning area, almost all of the planning area has less than wind potential Class 5, the minimum level necessary for industrial wind energy development. Most of the few areas with Class 5 or above potential are restricted from wind energy development to protect nationally important resources such as the Congressionally-designated national historic and scenic trails.

- *Lander RMP's Conservation Measures*: In order to ensure a high level of protection from energy development from potential future development, particularly in PACs, the Approved RMP prescribes management to address the threat. The COT Report provides that, "where state sage-grouse management plans have already identified an effective strategy … the strategies in those plans should be implemented." The Approved RMP is consistent with the state's strategy but contains additional restrictions to protect other resources. Restrictions that close areas or prohibit surface use by oil, gas or geothermal development protect more than 800,000 acres of Lander Field Office-administered priority habitat. The remainder of priority habitat is subject to multiple restrictions on development including disturbance caps; limits on densities of disturbances; preclusion of activities during important times of the year for sage-grouse such as breeding, brood rearing and winter concentration areas; limits on the amount of noise allowed; and bonded reclamation. In order to avoid surface-disturbing activities in Core Areas, priority will be given to development of oil and gas and other mineral resources outside of Core Areas, subject to applicable stipulations. When authorizing development of oil and gas and other mineral resources in core habitat, subject to applicable stipulations for the conservation of greater sage-grouse, priority will be given to development in non-habitat areas first and then in the least suitable habitat for greater sage-grouse. In addition to these management decisions focused specifically on greater sage-grouse protection, there are numerous other resource values present in the Lander planning area which overlap sage-grouse priority areas. Additionally, approximately 275,000 acres, or 40 percent, of the 700,000 acres of general habitat are closed to surface occupancy and oil and gas leasing; the balance of general habitat has seasonal restrictions and surface disturbance of leks is prohibited through RMP management decisions. Solar energy development is not allowed anywhere in the Lander planning area. While the potential for wind energy development is low, wind energy may be authorized with certain provisions to protect sage-grouse leks within 450,000 acres or 65 percent, of general habitat only. Wind energy development is precluded in Core Areas.

Threat 2: Infrastructure

- *Potential infrastructure development threats identified in the COT Report*: The COT Report states, "Development of infrastructure for any purpose (e.g., roads, pipelines, powerlines, and cellular towers) results in habitat loss, fragmentation, and may cause sage-grouse habitat avoidance. Additionally, infrastructure can provide sources for the introduction of invasive plant species and predators."

- *Potential infrastructure threats in the Lander Planning Area PACs*: Pipelines, powerlines and roads serve the development areas with limited foreseeable demand for new authorizations.

In most cases the existing infrastructure has been in place for decades and has had only minor and localized adverse impacts to sage-grouse populations, generally in proximity to transmission lines.

- *Lander RMP's Conservation Measures*: Recognizing the potential threat, and in order to ensure a high-level of protection from any future development, particularly in PACs, new rights-of-way (ROWs)–transmission lines, roads, pipelines, powerlines, cellular towers, etc.–will not be permitted within 360,000 acres, or approximately 20 percent of priority habitat. ROWs will only be permitted within the remainder of priority habitat (1,340,000 acres) unless the developer can demonstrate that no other location is technically feasible and they must adhere to the density and disturbance restrictions and 0.6 mile distance restriction from leks. As an added protective measure, roads will not be allowed within 1.9 miles of leks[5]. These authorizations will be subject to approval by the State Director. These ROWs would be subject to a strict set of guidelines as established by the Wyoming Governor's Executive Order and the National Technical Team's Required Design Features through incorporation in the ROW authorization. Some of these required design features include siting considerations, burying lines where feasible, precluding introduction of non-native plant species and replacing lost habitat. A more detailed description of the required design features is identified in Appendix E (p. 217) to this Approved RMP.

Threat 3: Grazing

- *Potential grazing threats identified in the COT Report*: The COT Report states, "Livestock grazing is the most widespread type of land use across the sagebrush biome (Connelly et al. 2004) and almost all sagebrush areas are managed for livestock grazing (Knick et al. 2003). Improper livestock management, as determined by local ecological conditions, may have negative impacts on sage-grouse seasonal habitats (75 FR 13910 and references therein), and management to enhance populations of wild ungulates may also have negative impacts (e.g., removal of sagebrush overstory in an attempt to increase forage production for wild ungulates)."

- *Potential grazing threats in the Lander Planning Area PACs*: Livestock grazing co-exists with sage-grouse in the Lander planning area where grazing is authorized on 2,320,000 acres, or almost 100 percent, of federal surface. The Lander planning area has seven wild horse herd management areas with a maximum total of approximately 900 horses. The Lander Field Office conducts regular gathers to keep herd numbers below this number. The large sage-grouse population in the Lander planning area, including the highest male lek attendance numbers in the sage-grouse range, supports the State of Wyoming Strategy that properly managed grazing is not a significant threat to sage-grouse in Wyoming.

- *Lander RMP's Conservation Measures*: Recognizing that improper livestock grazing is a threat to greater sage-grouse, the Approved RMP contains a number of measures to ensure continued proper livestock grazing. Grazing is required to meet sage-grouse habitat objectives with limitations on range infrastructure developments, including the requirement that developments have no adverse impacts to sage-grouse. The Approved RMP requires that wild horse numbers be maintained through gathers and fertility control. The BLM will continue to monitor and assess rangeland health as required by regulation. The plan authorizes rest or non-use as appropriate and allows the retirement of grazing allotments upon voluntary relinquishment by a permittee.

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[5] Holloran 2005 found that main haul roads within 3 kilometers of leks, and a length of greater than 5 kilometers of main haul road within 3 kilometers of leks significantly decreased male greater sage-grouse lek attendance.

The BLM will collaborate with appropriate federal agencies and the State of Wyoming, as contemplated under the Wyoming Governor's Executive Order 2013-3, to (1) develop appropriate conservation objectives; (2) define a framework for evaluating situations where sage-grouse conservation objectives are not being achieved on BLM land, to determine if a significant causal relationship exists between improper grazing (by wildlife or wild horses or livestock) and sage-grouse conservation objectives; and (3) identify appropriate site-based actions to achieve sage-grouse conservation objectives within the framework.

Threat 4: Recreation

- *Potential recreation threats as identified in the COT Report*: The COT Report states, "Recreational activities within sage-grouse habitats can result in habitat loss and fragmentation (e.g., creation of off-road trails, camping facilities) and both direct and indirect disturbance to the birds (e.g., noise, disruptive lek viewing, hunting dog trials, and dispersed camping)."
- *Potential recreation threats in the Lander Planning Area PACs:* Since 1987, motorized travel has been limited to existing roads and trails with no off-road motorized use allowed. Recreational use is primarily seasonal hunting and wildlife watching, along with non-motorized trekking along the historic trails that traverse the planning area.
- *Lander RMP's Conservation Measures:* The Approved RMP allows motorized travel only on existing routes and trails or under an administrative exemption until designations are completed. Travel management planning has already begun in priority habitat to designate routes for motorized use and identify roads for closure. This ongoing travel planning includes extensive road inventorying and developing a computer model, in conjunction with the U.S. Geological Survey, to utilize route characteristics to identify potential threats to sage-grouse from motorized travel. Non-motorized, undeveloped recreational use areas are identified in association with the historic trails (which are closed to motorized use). Only one new recreational use area is managed in priority habitat but it is limited to non-motorized recreation and users are required to remain on identified trails.

Other Potential Threats

The remaining potential threats present within the Lander planning area, not discussed in detail, are identified as low by the COT Report and are limited and localized. The majority of these potential threats occur in close proximity to existing population centers which are located outside of priority habitat. All are addressed through the goals, objectives and decisions of the Approved RMP as they pertain to each individual resource. Fire has historically had little effect—a total of less than 2 percent of the planning area has been burned by wildfire since 1960. There is relatively little conifer encroachment. In order to keep the fire threat low, the BLM and its partners mechanically treat approximately 5,000 acres each year, with priority given to sage-grouse habitat. Weed and annual grass control has been well managed through long-standing contracts between the BLM and local weed and pest departments and conservation districts. Urbanization in the planning area occurs only through subdivision of privately owned agricultural properties that removed sage-grouse habitat many years ago for agricultural purposes. The RMP does not identify any federal lands for urban development and disposal of federal surface or minerals in priority habitat is prohibited.

Under the previous RMP, greater sage-grouse habitat management was predominately focused on habitat surrounding leks. Under the Approved RMP, greater sage-grouse habitat management is based on landscape management in priority habitat. While the Approved RMP is directing management on BLM administered surface and mineral estates, the Governor's Core Area Strategy applies conservation measures to private and state lands whenever a state authorization is required. As indicated above, the Tribes have stated that the Governor's Core Area Strategy will be applied in the Wind River Indian Reservation.

The Core Area Strategy, as implemented by the Approved RMP is intended to lessen disturbances and developments in Core Areas by guiding such activities outside of Core Areas when technically feasible. The Approved RMP coupled with the State of Wyoming's Core Area Strategy provides cooperative landscape-level management for the conservation of greater sage-grouse that transcends ownership boundaries. The COT Report cites the Core Area Strategy as a substantial regulatory mechanism contributing to the conservation of greater sage-grouse that is reducing the threat risk to the Wyoming portion of the Wyoming Basin population. This approach demonstrates the BLM's continued commitment to long-term, range-wide greater sage-grouse conservation and habitat restoration and acknowledges the added value of engaging all stakeholders and governmental partners in cooperative conservation efforts.

Chapter 1. Record of Decision

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1.1. Record of Decision

This Record of Decision (ROD) approves the Bureau of Land Management's (BLM) attached Lander Resource Management Plan (RMP). This ROD and RMP provide overall direction for management of all resources on BLM-administered land in the Lander Field Office planning area.

The BLM maintains a project website which contains an electronic version of the ROD and Approved RMP and all of the maps referred to in the Approved RMP, as well as the Draft and Final Environmental Impact Statements (EIS) and other documents pertinent to the Approved RMP. The electronic copy of the Approved RMP will be updated as the BLM performs maintenance actions or if the RMP is subsequently amended. The location of this website could change, but as of the signing of the ROD the project address is: http://www.blm.gov/wy/st/en/programs/Planning/rmps/lander.html.

1.2. Decision

The decision is hereby made to approve the Approved RMP for the Lander Field Office. The decisions included in this ROD and Approved RMP supersede and replace the 1987 ROD for the Lander RMP, as amended. This ROD and Approved RMP become effective on the date this ROD is signed.

The BLM prepared the Approved RMP under the authority of the Federal Land Policy and Management Act (FLPMA) (43 United States Code [U.S.C.] 1701 et seq.) and other applicable laws. The BLM prepared an EIS in compliance with the National Environmental Policy Act (42 U.S.C. 4321-4347) as amended (NEPA), and BLM planning regulations (43 Code of Federal Regulations [CFR] Part 1601 et seq.). The land use decisions provide overall direction for management of resources and resource uses in the Lander Field Office planning area. Land use plan decisions are expressed as goals and objectives (desired outcomes), allowable uses, and management actions anticipated to achieve desired outcomes. Land use decisions made by this ROD and Approved RMP are provided in Section 2.3, "Approved Resource Management Plan" (p. 33), of this document.

Although decisions identified in the Approved RMP are final and effective upon signing of this ROD, they generally require additional implementation decision steps before on-the-ground activities can begin. Subsequent NEPA analysis will be conducted, as necessary, for such implementation decisions.

1.3. Considerations, Modifications, and Clarifications Following the Publication of Proposed RMP and Final EIS

1.3.1. Consideration of Additional Reports

Since publication of the Lander Proposed RMP and Final EIS in February 2013, additional reports regarding sage-grouse conservation have been published by U.S. Geological Survey (USGS) and U.S. Fish and Wildlife Service (USFWS); the BLM, as part of its National greater sage-grouse strategy, has continued to make progress in the development of cumulative effects analysis based upon Western Association of Fish and Wildlife Agencies (WAFWA) management zones, and the Wyoming 9-Plan Draft RMP Amendment/Draft EIS (December 2013), the Buffalo

Draft RMP Revision/Draft EIS (June 2013) and the Bighorn Basin Supplemental Draft RMP Revision/Draft EIS (July 2013). As explained below, the BLM has reviewed each of these subsequent publications, and determined that none constitute "significant new information relevant to environmental concerns and bearing on the proposed action or its impacts" such that supplementation of the Lander RMP Final EIS is required. See 40 CFR 1502.9(c)(1).

In March 2013, USFWS published the Greater Sage-grouse Conservation Objectives: Final Report (USFWS 2013), which is available online at: http://www.fws.gov/mountain-prairie/species/birds/sagegrouse/COT/COT-Report-with-Dear-Interested-Reader-Letter.pdf. Following the release of the Conservation Objectives Team Report (COT Report), the BLM thoroughly analyzed the report and the science on which it was based. Appendix M (p. 333) to the Approved RMP explains the BLM's analysis of the information summarized in the report and the manner in which the Draft EIS and Final EIS evaluated that information.

In June 2013, USGS published the Greater Sage-Grouse Baseline Report which consolidated range-wide information useful for placing threats and planning units into context. This report gathered data from multiple sources, including BLM. It was considered by the biological community to be best available compilation of data on the sage-grouse habitats at the range-wide scale at the time that data was collected, from 2011 to 2013. The main purpose of the Greater Sage-Grouse Baseline Report is to assist the greater sage-grouse planning efforts in describing the affected environment. The Greater Sage-Grouse Baseline Report does not provide management recommendations. The BLM acknowledges that each planning effort will incorporate much finer-scaled data to address the issues within the planning area through implementation of fine and site scale monitoring (Appendix N (p. 357) of the Approved RMP). The information contained in the Greater Sage-Grouse Baseline Report is presented at a broader scale than that data used for the analysis in the Lander Final EIS, and did not contain any new information which would change the Lander Final EIS analysis or present a seriously different picture of the environmental effects.

The Lander Planning area is contained wholly within the Wyoming Basin Population within WAFWA Management Zone II. Ongoing efforts are currently underway to analyze the cumulative impacts to greater sage-grouse within WAFWA management zones and results are planned to be available later in 2014. The Lander Proposed RMP and Final EIS analyzed cumulative effects to greater sage-grouse within the State of Wyoming, as there are ongoing planning efforts on all Wyoming BLM plans regarding greater sage-grouse management. Additionally, Wyoming Executive Order 2011-05, which implements the Core Area Strategy, is in effect for all state permitted activities on all land ownerships. The cumulative effects analysis contained within the Lander Proposed RMP and Final EIS assumed implementation of Wyoming Executive Order 2011-05 and implementation of a consistent approach on public lands for all federally permitted activities. Since the Lander planning area is centrally located in the state and the Approved RMP is based on a statewide strategy, the analysis of the cumulative effects on greater sage-grouse presents a full picture of the cumulative effects of the Lander Plan. Moreover, although the Final EIS included neighboring plans as part of its analysis of reasonably foreseeable future actions and those planning efforts are now at a different stage of the planning process, none of the preferred alternatives from those plans differ significantly from those analyzed in the Final EIS. Each of the other BLM plans within the State of Wyoming has identified a strategy consistent with Wyoming Executive Order 2011-05 in its preferred alternatives. Therefore, the cumulative effects analysis conducted for the Lander Proposed RMP and Final EIS adequately analyzed the overall cumulative effects to greater sage-grouse management in relation to the planning area.

1.3.2. Modification and Clarifications

During preparation of the Approved RMP, minor changes were made to the Proposed RMP to correct errors and to clarify decisions. As a result, the management action numbers changed from those used in the Proposed RMP and Final EIS. Appendix O (p. 383) identifies the record number of each management action in the Proposed RMP and Final EIS and the corresponding decision in the Approved RMP. Clarifications and corrections made since the Proposed RMP and hereby adopted by this ROD and Approved RMP include:

- Management decisions that included decisions with many components were separated into individual actions for clarification.
- The order of management actions was modified in some places to provide a more logical order or to facilitate readability.
- Objectives and recreation management decisions previously provided in Appendix C, *Recreation Management Area Forms*, of the Proposed RMP and Final EIS, have been moved to the *Recreation* section (Table 2.25, “6000 LAND RESOURCES (LR) – RECREATION” (p. 100)) of this document for convenience. These recreation management actions were fully analyzed in the Draft and Final EISs.
- References to State of Wyoming regulations and other documents have been updated and added.
- Management has been clarified to be more consistent with State of Wyoming Executive Order 2011-05. In certain instances this has included edits for technical clarity and reorganization of management decisions.
- The use of the Density Disturbance Calculation Tool for greater sage-grouse surface disturbance caps and management to take into account the issuance of Wyoming Executive Order 2013-3 were added.
- Two 40-acre parcels were added to the Johnny-Behind-the Rocks Recreation Management Zone (one of which was removed from the Twin Creek Area of Critical Environmental Concern (ACEC) so that contiguous parcels would be managed with the same prescriptions applied to the Recreation Management Zone.
- The Monitoring and Evaluation Plan describing the monitoring protocols to be used to evaluate the implementation and effectiveness of management decisions made in the RMP is attached as Appendix N (p. 357).
- At the request of the State of Wyoming, the timing protections for mule deer winter range were taken out, so that only elk winter range is protected; crucial winter range for other big game has timing limitations.
- At the request of the State of Wyoming, the BLM removed the controlled surface use stipulation for oil and gas leasing in Wyoming Department of Environmental Quality (DEQ) water zones 1 through 3.

1.4. Overview of Alternatives Presented in the Proposed RMP and Final EIS

1.4.1. Alternatives Considered but Eliminated from Detailed Analysis

Some alternatives were considered but eliminated from detailed analysis for one or more of the following reasons:

1. They would not fulfill requirements of FLPMA or other existing laws or regulations;
2. They did not meet the purpose and need of the land use plan revision;
3. They were already part of an existing plan, policy, or administrative function; or
4. They did not fall within the limits of the planning criteria.

FLPMA directs the BLM to manage public lands and resources according to the principles of multiple use and sustained yield, including recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historical values. Moreover, the BLM is required by law to recognize existing valid rights on public lands and manage public lands according to existing laws, including, but not limited to, the General Mining Law of 1872 and the Mining and Minerals Policy Act of 1970. Specific alternatives considered, but not carried forward for detailed analysis include:

- Require a Plan of Operations for the Entire Field Office
- Close Abandoned Mine Land Reclaimed Areas to New Surface Disturbance
- Prohibit Oil and Gas Development
- Identify Oil and Gas Lease Parcels to be Offered Instead of Responding to Industry Requests and Utilize Master Leasing Plans
- Defer Oil and Gas Leasing until Infrastructure is in Place to Ensure Price Parity with Other Parts of the Country
- Evaluate Oil Shale-Tar Sands Production
- Consolidate All Wild Horse Herd Management Areas in the Green Mountain Common Allotment
- Open or Close the Planning Area to Solar Energy Generation
- Close the Lander Slope and Dubois Section 15 Leases to Livestock Grazing
- Require Planning Area Wide Phased Development
- Manage the Beaver Creek Ski Area as a Special Management Area
- Manage Highway 287 as a Scenic Byway
- Manage the Sweetwater River Corridor as a High Priority Management Area
- Designate Areas as “Open” to Facilitate Motorized Vehicle Play Areas

1.4.2. Alternatives Considered in Detail

The Proposed RMP and Final EIS, Section 2.10, *Detailed Description of Alternatives by Resource*, describes the four alternatives (A through D) considered in detail. Chapter 4 of the Proposed RMP and Final EIS analyzes the impacts associated with each of the alternatives considered. This analysis includes an estimate of the social and economic impacts anticipated as a result of the alternatives considered. It could also provide a suitable starting point for local governments to use in local planning efforts. General overviews of each alternative are provided below.

Alternative A

Resources on BLM-administered lands in the Lander Field Office planning area are currently managed under the existing plan, the 1987 Lander RMP. Alternative A, the No Action Alternative, represents the continuation of current management of resources and land management direction in the planning area under the existing plan.

Alternative B

Alternative B emphasizes conservation of physical, biological, heritage, and visual resources while managing the public lands for multiple uses. Resource development and other active land uses would still be authorized, but greater restrictions would be placed on where and how the use would occur. Alternative B would use a low-impact approach to resource management, utilizing natural systems to achieve goals and objectives, and would designate the most acres as ACECs.

Alternative C

Alternative C provides fewer protections for resources and focuses on a more intensive human presence on the land to achieve mandated goals. Alternative C gives priority to land uses such as oil and gas development, mining, rights-of-way, and livestock grazing when managing the public lands for multiple uses. Alternative C preserves the least land area for physical, biological, and heritage resources and designates no ACECs.

Alternative D (Proposed RMP)

Alternative D balances the use and conservation of planning area resources. This alternative allows resource use if the activity can be conducted in a manner that protects physical, biological, heritage, and visual resources. Alternative D designates the second largest number of acres as ACECs and emphasizes moderate constraints on resource uses (for example, mineral development) to protect resource values.

1.4.3. Environmentally Preferable Alternative

Council on Environmental Quality (CEQ) regulations require that a ROD state which alternatives were considered to be "environmentally preferable" (40 CFR 1505.2(b)). Question 6A of CEQ’s 40 most-asked questions regarding CEQ’s NEPA regulations defines that term to ordinarily mean the alternative which best protects, preserves, and enhances historic, cultural, and natural resources.

Under that definition, Alternative B is the most environmentally preferable. However, NEPA expresses a continuing policy of the federal government to "use all practicable means and measures…to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans" (Section 101 of NEPA).

FLPMA requires the BLM to manage the public lands for multiple use and sustained yield. (See FLPMA § 302). And section 102(12) of FLPMA declares a policy of the United States that "the public lands be managed in a manner which recognizes the Nation’s need for domestic sources of minerals, food, timber, and fiber from the public lands including implementation of the Mining and Minerals Policy Act of 1970 (84 Stat. 1876, 30 U.S.C. 21a) as it pertains to the public lands."

Alternative B is most protective of resources in the planning area and thus would be the most "environmentally preferable" as that term is defined in Question 6A of CEQ’s 40 asked questions regarding NEPA, but both NEPA and FLPMA recognize resource uses as part of the policy of the United States and under the standard of FLPMA’s multiple-use mandate, the Proposed Plan was determined to be the most balanced.

1.5. Management Considerations

The Approved RMP provides conservation of physical, biological, heritage, and visual resources while allowing for resource use if the activity can be conducted in a manner that preserves these resource values. The Approved RMP designates new and expands existing special designations and provides areas for intensive mineral development in areas with high mineral potential.

In reviewing the alternatives, incorporating current knowledge on existing and reasonably foreseeable development opportunities, and comparing to the existing decisions in the 1987 Lander RMP, BLM determined that Alternative D, the Proposed Plan, provided the most balanced management direction. Issues brought forth during scoping (see Section 2.1.3, “Planning Issues” (p. 27)) coupled with the analysis conducted in the Draft EIS and Final EIS ultimately formed the basis of the Approved RMP. The Approved RMP responds to the following key issues, impacts as described in the Proposed RMP and Final EIS, and the concerns and comments submitted during the EIS process. The Approved RMP achieves a balanced approach for these issues so that some areas are emphasized for resource development and others for resource protections. The BLM was able to accommodate this balance because of the somewhat unique characteristics of the planning area. Mineral potential, primarily oil and gas but also uranium, exist in the planning area in very well understood areas that have experienced extensive development in the past. This prior development adversely affected resource values many decades before these values were recognized by the BLM and the public. However, outside of historical development areas, very little degradation of resource values has occurred. This is the reason that so much intact greater sage-grouse and other wildlife habitat exists and why the setting of the historic trails is intact. The Approved RMP management will continue this synergistic approach. For example, almost 90 percent of the 480,000 acres protected for the national trails is in greater sage-grouse Core Area. Management decisions for the protection of the trails will also protect greater sage-grouse and other wildlife, riparian areas, recreational uses and visual resources.

- Greater Sage-Grouse Conservation: The Lander Field Office has long been aware of the importance of greater sage-grouse conservation and the Lander planning area’s potential to contribute to the BLM’s national conservation effort. The USFWS’s listing decision and BLM national and state guidance further emphasized greater sage-grouse conservation. The Approved RMP incorporates measures from the BLM National Technical Team report (2011), the USFWS COT Report (2013) and the Wyoming Core Area Strategy, as identified in Wyoming Executive Orders 2010-04, 2011-05 and 2013-03. These conservation measures provide a tool to limit surface disturbance and habitat fragmentation thus benefiting many resources, including soil and water, vegetation, viewshed, and wildlife, including greater sage-grouse. See the Executive Summary (p. 3) of this ROD.

- Scenic Trails: The planning area contains segments of one National Scenic Trail (Continental Divide) and four National Historic Trails (NHT) (California, Mormon Pioneer, Oregon and Pony Express) which are widely considered to be among the most pristine and intact in the country. The National Park Service determined that almost the entire route of the NHTs through the planning area consisted of Class 1 segments (the highest rating). The Approved RMP protects the setting of the National Trails to meet the nature and purpose for which Congress designated the trails. The 1987 RMP had designated the area within a ¼ mile of either side of the NHTs as an ACEC. The Proposed RMP and Final EIS analysis showed that this protection did not protect the trails’ setting. In addition, a buffer based on distance rather than what could be seen by trail visitors is not in compliance with current BLM guidance. Geographic information systems (GIS) analysis identified the appropriate boundaries to protect the setting while not unduly limiting other uses that were out of sight of the trails. The Approved RMP’s visual resource class designation and limitations on surface disturbance will allow uses that are consistent with the trails’ nature and purpose while protecting their existing unspoiled character.

- Energy and Minerals Management: The Approved RMP balances the need for development of renewable and non-renewable energy resources with resource protection. The analysis in the Proposed RMP and Final EIS identified areas with high development potential and fewer likely adverse effects to other resource values. The Approved RMP designates three Designated Development Areas for development incorporating almost all lands with moderate to high oil and gas potential. The designated rights-of-way corridors were chosen to facilitate this development as well as to provide access through the planning area from surrounding field offices. These decisions will facilitate development and provide for socioeconomic benefits to the planning area and the State. Potential for future mineral development is primarily limited to lands in the Designated Development Areas which do not conflict with important cultural resources, viewshed, or greater sage-grouse habitat.

- Oil and Gas Leasing Reform: Master Leasing Plan analysis was conducted on two areas as a tool to facilitate resource protection while allowing for oil and gas development. This analysis resulted in a determination that the Dubois area's many resource values could not be adequately protected by a Master Leasing Plan (MLP), thus the Approved RMP closes the area to leasing. The Beaver Rim area was determined to be suitable for an MLP because of its high value resources and location adjoining two designated development areas.

- Management of Riparian Areas: The Approved RMP makes improvement of riparian conditions a management priority to be addressed through riparian set-backs and surface disturbance limitations as well as in livestock grazing authorizations, reclamation requirements, and oil and gas lease stipulations. The Approved RMP continues existing watershed management partnerships with counties and the local conservation districts.

- Water Quality: The Approved RMP recognizes the primacy of the State of Wyoming in water quality issues and supports the State's efforts including the State's water quality monitoring requirements. The limits on surface disturbance and surface water disposal as well as site-specific water management plans are designed to protect water resources.

- Livestock Grazing: Approximately 70,000 acres of land were identified as unavailable to livestock grazing by the 1987 RMP and the LFO determined that the basis for this decision had not changed. The Approved RMP identifies an additional approximately 7,600 acres in the Dubois area as having resources conflicts that could not be resolved through changes in livestock grazing management. The Approved RMP closes these 7,600 acres to livestock grazing.

- Wild Horses and Burros: The Approved RMP requires that wild horse numbers be managed as necessary for wild horse condition and reduction of resource impacts. Wild horse migration patterns and other potential impacts must be evaluated during resource use authorizations (e.g., fences).

- Recreation and Visitor Services: BLM guidance for recreation planning has changed dramatically since the 1987 RMP was completed. The Approved RMP identifies recreation use areas depending upon visitor/user demand and resource protections. Areas that are emphasized for non-motorized use are closed to motorized travel or limited to identified routes. Some areas are managed for primitive recreation and others for a less "back country" experience. The Approved RMP did not identify any areas for development of recreational facilities except for the Johnny-Behind-the-Rocks trail system. The Proposed RMP and Final EIS and scoping did not identify a need for an off-road motorized "play area" and the Approved RMP closes the planning area to off-road motorized use.

- Travel Management: The Approved RMP identified five small areas as closed to motorize travel on existing roads. For the remainder of the planning area, travel management decisions as to which roads will be open to motorized travel and which roads will be closed and reclaimed will be determined in implementation of the Approved RMP.

- Management of Wildlife Habitat: In addition to the greater sage-grouse management identified above, the Approved RMP continues and in some cases expands ACECs for the benefit of relevant and important wildlife resources. In addition, throughout the planning area, seasonal timing restrictions and limits on surface disturbance are applied for the benefit of wildlife including birds protected by the Migratory Bird Act. The Approved RMP recommends approximately 460,000 acres for locatable mineral withdrawal primarily for the benefit of wildlife.

- Management of Areas with Special Values: The Approved RMP uses a variety of management tools to protect areas with special values, including ACEC designation, designation of the National Trails Management Corridor, recreation management areas, visual resource class designation, closing the areas to surface disturbance and disruptive activities, and the proposed mineral withdrawals. Each tool was selected based upon both the value and the potential threat. The Proposed RMP and Final EIS analysis guided the selection of the proper tool to achieve the desired future condition for these special values with the least limitation on other uses.

- Protection of Natural and Cultural Resources: Following the Proposed RMP and Final EIS analysis, the Approved RMP uses several different tools to protect natural and cultural resources. In some cases ACEC designation was considered as most appropriate and in other cases, such as for the national historic trails, the Corridor Management appeared to have better protections for the trails and their settings then the somewhat limited benefits of ACEC designation. Limits on surface disturbance as well as visual resource class designation were often implemented. In all cases, absent an existing right, avoidance is required.

The BLM is tasked with managing the public lands in accordance with the principles of multiple-use and sustained yield as mandated under FLPMA and other laws and regulations governing management of public land. The Approved RMP provides a balance between those reasonable measures necessary to protect existing resource values and continued public need to make beneficial use of the planning area. Therefore, implementing the Approved RMP will best comply with all applicable laws, regulations, policy, and agency direction.

1.5.1. Mitigation Measures

All practicable means to avoid or minimize environmental harm are encompassed in the Approved RMP and its appendices. Mitigation measures, including oil and gas stipulations, Required Design Features, and best management practices are identified in the attached appendices.

1.5.2. Plan Monitoring

BLM planning regulations (43 CFR Part 1610.4-9) call for the monitoring of RMPs on a continual basis with a formal evaluation done at periodic intervals. Implementation of the Approved RMP will be monitored over the life of the plan, and plan evaluations conducted periodically. Management actions arising from activity plan decisions will be evaluated to ensure consistency with RMP objectives. Monitoring and the evaluation process are described in more detail in Section 2.5, *Plan Evaluation*, of the Approved RMP, and in Appendix N (p. 357).

1.6. Public Involvement, Consultation, and Coordination

1.6.1. Public Involvement

The public involvement process, consultation, and coordination conducted for the Approved RMP are described in Chapter 5 of the Proposed RMP and Final EIS. As required by regulation, public scoping meetings were conducted following the publication of the Notice of Intent to prepare an EIS on February 13, 2007. There was a second round of public meetings following the publication of the Notice of Availability of the Draft RMP and EIS on September 9, 2011. The comments received on the Draft RMP and EIS and BLM's responses are summarized in a report available on the Lander RMP website, along with copies of the comments themselves.

The Proposed RMP and Final EIS was published on February 22, 2013. The 30-day protest period provided by 43 CFR Part 1610.5-2 ended on March 25, 2013. Thirteen protest letters were received. The protest letters are available on the project website, along with the BLM Director's protest resolution report.

Several protest issues pertained to greater sage-grouse conservation, including consistency with the Wyoming Governor's Core Area Strategy. In addition, protest issues included vested lease rights, Required Design Features, sufficiency of the economic analysis, the possibility of closing livestock grazing allotments on voluntary retirement of permits, protection of important resources, livestock grazing management, the Twin Creek ACEC, and NEPA adequacy.

The BLM Director granted one protest in part and required that a monitoring and evaluation plan establishing intervals and standards be part of the ROD and Approved RMP. This plan is provided in Appendix N (p. 357). The remaining protests were denied.

In accordance with 43 CFR 1610.5-2(b), the decision of the BLM Director is the final decision of the Department of the Interior and there are no further administrative remedies available.

1.6.2. Consultation and Coordination

1.6.2.1. Cooperating Agency Status

For the Lander RMP revision planning effort, the BLM invited local, state, federal, and tribal representatives to participate as cooperating agencies on the Lander RMP revision and EIS. The BLM outreach efforts and the response by cooperating agencies are described in Section 5.3.1 of the Proposed RMP and Final EIS.

The BLM formally invited the cooperating agencies to participate in developing the alternatives for the RMP and EIS and to provide data and other information related to their agency responsibilities, goals, mandates, and expertise.

1.6.2.2. Governor's Consistency Review

The BLM initiated the Wyoming Governor's Consistency Review required by 43 CFR 1610.3-2(e) by letter from the BLM State Director dated March 8, 2013. The BLM received a letter from the Wyoming Governor dated April 26, 2013. The Governor's Office advised the BLM the Proposed RMP had a number of inconsistencies and provided recommendations. The recommendations had been raised during public participation and included questions regarding air and water quality and conformance with the Wyoming Governor's Core Area Strategy for greater sage-grouse conservation. The BLM State Director accepted some of the recommendations, did not accept others, and advised the Governor of his decision in writing.

1.6.2.3. Section 7 Consultation

In accordance with Section 7 of the Endangered Species Act, the USFWS provided a list of threatened and endangered species likely to occur on BLM-administered land in the Lander Field Office planning area on September 6, 2007. The USFWS was also provided opportunities to comment on draft documents during the RMP revision process. Copies of the BLM's Draft and Final Biological Assessments were placed on the Lander RMP website for public review. One comment was received on the Draft Biological Assessment, but no errors were identified. The USFWS submitted a programmatic Biological Opinion concurring with the BLM effects determinations (Appendix P (p. 403)).

1.6.2.4. Native American Consultation

In accordance with FLPMA and BLM guidance, the BLM engaged in consultation with Native American representatives for the RMP planning process. Coordination with Native American tribes occurred throughout the planning process. On February 2, 2005, the BLM sent letters inviting Native American tribes to be cooperating agencies as part of the RMP revision. The BLM sent additional letters on August 10, 2009, to 16 tribes requesting further input on issues of religious and cultural importance. In September of 2009, the BLM also met with interested tribes and toured areas of concern in the planning area.

1.6.2.5. Coordination with the Environmental Protection Agency

The BLM coordinated with the Environmental Protection Agency throughout the Lander RMP revision process, including during alternatives development. The BLM invited the Environmental Protection Agency to participate as a cooperating agency and provide information related to the Environmental Protection Agency's responsibilities, goals, policies, and expertise. The Environmental Protection Agency provided a rating of EC-2 (Environmental Concerns - Insufficient Information) on the Draft RMP and EIS. They expressed concerns with (1) protection of groundwater resources and (2) potential impacts to air quality. The Environmental Protection Agency submitted a letter to the BLM on March 25, 2013, with comments on the Proposed RMP and requests for specific points to be included in the Approved RMP. A copy of this letter is available on the Lander RMP website.

Chapter 2. Approved Resource Management Plan

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2.1. Introduction

The Record of Decision (ROD) and Approved Resource Management Plan (RMP) are intended to provide land use planning and management direction at a broad scale and to guide future actions for the life of the plan. The regulations for making and modifying land use plan decisions, which comprise an RMP, are found in 43 Code of Federal Regulations (CFR) Part 1600. Land use plan decisions consist of (1) desired outcomes (goals and objectives) and (2) allowable uses and management actions.

2.1.1. Purpose and Need for the Resource Management Plan Revision

Council on Environmental Quality regulations (40 CFR 1502.13) an environmental impact statement (EIS) to "specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action." The Draft and Final EISs included lengthy statements of the purpose and need for revision of the 1987 plan. The following is a brief summary of those statements.

The Bureau of Land Management (BLM) signed a ROD for the previous Lander RMP in June of 1987. With the changes that occurred since that time, including new data, changes in policy, and emerging public expectations and concerns, the BLM began a new planning process. The BLM identified the need to revise the existing plan based on considerations identified in the Analysis of the Management Situation (BLM 2009a), an examination of issues identified during the public scoping process, and through collaboration with cooperating local, state, and federal agencies.

New Data

The availability of new information, and advances in science and technology provide new data to consider in the revision of the 1987 plan. Examples of this new data can be found in the following documents and sources:

- Lander Field Office Mineral Occurrence and Development Potential Report (BLM 2009b), which identifies areas of mineral potential, including locatable minerals, solid leasable minerals, and salable minerals.
- Lander Field Office Analysis of the Management Situation (BLM 2009a), which identifies areas that require a change in management and areas of potential concern.
- Scientific Inventory of Onshore Federal Lands Oil and Gas Resources and Reserves and the Extent and Nature of Restrictions or Impediments to their Development (DOI 2006), which identifies constraints on development of oil and gas reserves.
- Reasonable Foreseeable Development Scenario for Oil and Gas, Lander Field Office (BLM 2009c), which identifies the historic development of oil and gas resources and describes the likelihood and location of future development.
- Lander Field Office Visual Resource Inventory Data (BLM 2012), which provides information about existing visual resources and their current conditions.
- Habitat and populations of special status species, both plants and wildlife, in the planning area.

New and Revised Policies

Numerous policies either have been revised or adopted since the ROD for the existing RMP was signed in 1987. New and revised policies needed to be considered in revising the existing plan, such as the oil and gas leasing reform (Washington Office Instruction Memorandum 2010-117). Appendix A of the Proposed RMP and Final EIS includes a complete list of relevant policies, including new and revised policies.

Emerging Concerns and Changing Circumstances

Emerging concerns and changes in local, regional, and national circumstances were considered during the revision of the existing plan, as identified in the Notice of Intent.

Management under the BLM multiple use mandate can result in conflicts between resource uses, such as energy and minerals management, and resource conservation, such as areas with special resource values like sensitive species habitat. This tension is further compounded by changing conditions in surrounding areas, such as air quality concerns in southwestern Wyoming, greater sage-grouse habitat protection issues, the growing recognition of the difficulty of establishing reclamation following surface disturbance, and the increased potential for the introduction and spread of invasive plant species. Increasing demand for rights-of-way (ROW) on public land and access for recreational use, including travel management issues, could conflict with protection of the values in Areas of Critical Environmental Concern (ACECs).

Changing demographics have changed the demands for different types of uses on the public lands. For example, visual resources are an important component of the quality of life in the community. Visual resource management decisions have important implications for development and land use. Guidance and regulations for analysis of lands with wilderness characteristics and waterway segments with wild and scenic characteristics result in the need for public involvement in planning processes associated with these areas.

The pace of mineral development and the areas in which development will be authorized have important implications for the local and state economies, and are directly related to land use decisions and authorizations. The BLM has issued guidance following oil and gas leasing reform (Instruction Memorandum 2010-117), which authorizes analyzing external and internal proposals for Master Leasing Plans (MLPs) in RMP revisions. Both external and internal proposals have been received for MLPs in different parts of the planning area. The State of Wyoming has identified a need for more pipelines to support nonrenewable energy development and carbon dioxide sequestration.

By revising the 1987 plan, the BLM addresses the various changes occurring in the planning area, including input from members of the public on the manner in which they would like to see the public lands managed. With a revised plan, the BLM can select a future management strategy that best achieves a combination of the following:

- Establishing goals and objectives for management of resources and resource uses on the lands administered by the Lander Field Office in accordance with the principles of multiple use and sustained yield (Federal Land Policy and Management Act [FLPMA] Section 202).
- Identifying land use plan decisions to guide future land-management actions and subsequent site-specific implementation decisions.
- Identifying management actions and allowable uses anticipated to achieve the established goals and objectives and reach desired outcomes.
- Providing comprehensive management direction by making land use decisions for all appropriate resources and resource uses administered by the Lander Field Office.

- Providing for compliance with applicable tribal, federal, and state laws, standards, implementation plans, and BLM policies and regulations.

2.1.2. Planning Area

Within the Lander planning area, the BLM manages approximately 2.4 million acres of public land surface (Map 1) and 2.8 million acres of mineral estate (Map 2). As a note to the reader, throughout the document, acreage numbers are stated to be "approximate" but the numbers appear to be exact. These calculations are approximations based on the conversion of paper maps to Geographic Information System data. Truly accurate numbers would require a physical survey, which is conducted only when necessary to support site-specific decisions. Over time and with the expanded use of the highly accurate Global Positioning System, the BLM updates its data to reduce inaccuracies. Taken as a whole, these slight variances are thought to be inconsequential, but the exactness implied needs to be qualified.

2.1.3. Planning Issues

The BLM Land Use Planning Handbook (BLM 2005a) defines planning issues as "…disputes or controversies about existing and potential land and resource allocations, levels of resource use, production, and related management practices." Issues identified during the internal and external scoping and RMP revision process comprise two categories:

- Issues within the scope of the EIS and used to develop alternatives or otherwise addressed in the EIS.
- Issues outside the scope of the EIS or that could require policy, regulatory, or administrative actions.

2.1.3.1. Issues Addressed

The following planning issues were identified for developing alternatives in the RMP and EIS. See also Chapter 1 of the Lander Proposed RMP and Final EIS.

Energy and Minerals Management

- What areas are suitable or not suitable for energy and mineral resource development?
- What areas should be offered for oil and gas leasing with MLPs?
- What level of development should be allowed in areas suitable for energy and mineral resource development?

Management of Riparian Areas and Water Quality Concerns

- How should riparian areas be managed to protect the integrity of fish and wildlife habitat as well as protect local water quality?

Livestock and Wild Horse Grazing and Vegetation Management

- How should soil, water, and vegetation be managed to reduce fuel loads and achieve forest health and healthy rangelands while providing for livestock and wild horse grazing and fish and wildlife habitat?

Recreation/Visitor Use and Safety Management

- How should BLM-administered land be managed to provide access for recreation and general enjoyment of the public lands while protecting cultural and natural resources and public safety?

Travel Management, Including Off-highway Traffic

- How should travel be managed to provide access for recreation, commercial uses, and general enjoyment of the public lands while protecting cultural and natural resources?

Management of Wildlife Habitat, Including Protection of Sensitive Species Habitat

- How should special status species conservation strategies be applied given the BLM requirement for multiple use management and sustained yield? How will these strategies affect other public land resources?

Access to Public Lands and Management Considerations

- What land adjustments are necessary to improve access and management of public lands?

Management of Areas with Special Values

- What areas, if any, contain unique or sensitive resources requiring special management?

Management and Protection of Public Land Resources While Allowing For Multiple Uses

- How should BLM-administered lands be managed to protect natural and cultural resources, while fulfilling the BLM's mandate to manage for multiple uses?

2.1.3.2. Issues Considered but Not Further Analyzed

Laws, regulations, policies, and executive orders require specific resource topics be examined during the National Environmental Policy Act (NEPA) process. In some instances, initial evaluation reveals issues that are not relevant to the planning area or do not require further analysis. For example, in accordance with the Farmland Protection Policy Act, the BLM determined that no prime or unique farmlands or farmland of statewide or local importance occur on public lands in the planning area. None of the actions proposed in this RMP revision would disturb farmlands; therefore, impacts on prime and unique farmlands were not analyzed further in this RMP revision.

2.1.3.3. Planning Criteria

The planning criteria used in the ROD and Approved RMP are identified in the Lander Proposed RMP and Final EIS. Some of these criteria are:

- The plan was completed in compliance with FLPMA (43 United States Code 1701 et seq.), NEPA, and other applicable law.
- The plan recognizes valid existing rights.
- Public participation was encouraged throughout the process by collaborating and building relationships with tribes, state and local governments, federal agencies, local stakeholders, and others with interest in the plan. Several open houses were held to solicit public and community involvement in plan development.
- Planning decisions apply to BLM-administered public lands, including split-estate lands where the subsurface minerals are severed from the surface right, and the BLM has legal jurisdiction over one or the other. The Approved RMP complies with all applicable laws, regulations, and policies.

- Impacts from the management alternatives considered in the Approved RMP were analyzed in an EIS developed in accordance with regulations at 43 CFR 1610 and 40 CFR 1500.
- The planning process followed the stages of an EIS-level planning process. For specific information, see the Land Use Planning Handbook, H-1601-1 (BLM 2005a).
- Decisions in the Approved RMP are compatible with the existing plans and policies of adjacent local, state, federal, and tribal agencies as long as the decisions are consistent with the purposes, policies, and programs of federal law, and regulations applicable to public lands.
- The Approved RMP recognizes the State of Wyoming's responsibility and authority to manage wildlife, including BLM-designated special status species such as greater sage-grouse. The BLM will consult with the Wyoming Game and Fish Department (WGFD) in accordance with the Memorandum of Understanding between them.
- The National Sage-grouse Habitat Conservation Strategy (BLM 2004a) requires that impacts to sagebrush habitat and sagebrush-dependent wildlife species be analyzed and considered in BLM land use planning efforts for public lands with sagebrush habitat in the planning area. Management of surface-disturbing and disruptive activities follow the policy set forth in the Wyoming Governor's Executive Orders regarding greater sage-grouse conservation.
- Fire management strategies will be consistent with the Wyoming Fire Management Plan (BLM 2004b).

2.1.3.4. Planning Process Summary

The BLM planning process is designed to help the BLM identify the uses of BLM-administered lands desired by the public and to consider these uses to the extent they are consistent with the laws established by Congress and the policies of the executive branch of the federal government. Section 1.6, "Public Involvement, Consultation, and Coordination" (p. 21), describes the collaboration that occurred among the BLM and other agencies, tribes, state and local governments, and other stakeholders in preparing the RMP and EIS. Additional information is provided in Chapter 5 of the Lander Proposed RMP and Final EIS.

2.1.3.5. Related Plans

BLM planning regulations require that the BLM review officially approved or adopted resource plans of other federal, state, local and tribal governments and, to the extent consistent with the purposes, policies and programs of federal law and regulations applicable to the public lands, be consistent with those plans. The following plans are related to the management of land and resources in the planning area and apply to this RMP revision:

- Shoshone National Forest Land and Resource Management Plan (Forest Service 2012)
- Fremont County Land Use Plan (Fremont County 2004)
- Natrona County Development Plan (Natrona County 1998)
- Carbon County Land Use Plan (Carbon County 2012)
- Sweetwater County Comprehensive Plan (Sweetwater County 2002)
- Hot Springs County Land Use Plan (Hot Springs County 2002)
- Natrona County Conservation District Long Range Strategic Plan 2011-2015 (Natrona County Conservation District 2010)
- Popo Agie Conservation District Long Range Plan 2008-2012 (Popo Agie Conservation District 2007)
- Saratoga-Encampment-Rawlins Conservation District Long Range and Natural Resource Management Plan 2007-2011 (Saratoga-Encampment-Rawlins Conservation District 2006)

- Sweetwater County Conservation District Land and Resource Use Plan and Policy (February 2011) (Sweetwater County Conservation District 2011)
- Dubois-Crowheart Conservation District Land Use and Resource Management Plan 2011-2015 (DCCD 2010)
- Lower Wind River Conservation District Long Range Plan 2011-2015 (Lower Wind River Conservation District 2010)
- National Park Service's Comprehensive Management and Use Plans for the California, Pony Express, Oregon and Mormon Pioneer National Historic Trails (National Park Service 1999)
- The 2009 Continental Divide National Scenic Trail Comprehensive Plan (Forest Service 2009)
- Pinedale Field Office Resource Management Plan (BLM 2008a)
- Cody Field Office Resource Management Plan (BLM 1990)
- Grass Creek Resource Management Plan (BLM 1998)
- Washakie Resource Management Plan (BLM 1988)
- Casper Resource Management Plan (BLM 2007a)
- Rawlins Field Office Resource Management Plan (BLM 2004c)
- Green River Resource Management Plan (BLM 1997)

2.1.4. Overall Vision

The Approved RMP provides additional conservation of physical, biological, heritage, and visual resources compared to current management, but allows resource use if the activity can be conducted in a manner that conserves these resource values. The Approved RMP designates new and expands existing special designations and provides areas for intensive mineral development in areas of high mineral potential.

In balancing resource use with resource protections, the Approved RMP emphasizes three factors. The first involves management for the Dubois area (Map 3).

The Analysis of the Management Situation identified the need for special management for the Dubois area. The Dubois area has extraordinary wildlife values and viewsheds. The 1987 RMP had designated three ACECs in the Dubois area. The area also contains two wilderness study areas and special protections, including locatable mineral withdrawals, to protect nationally recognized bighorn sheep and elk populations. The Dubois area contains habitat for two threatened and endangered mammals (Canada lynx and grizzly bear) as well as the gray wolf, a former threatened and endangered species and currently a WGFD trophy species. The Dubois area also contains habitat for several BLM-designated sensitive species such as Yellowstone cutthroat trout, bald eagle, northern goshawk, Dubois milkvetch, and limber pine. In addition, the Dubois area contains the only lands in the planning area that the BLM determined met the criteria of non-Wilderness Study Area lands with wilderness characteristics. The Approved RMP manages the Dubois area in its entirety to protect these important values. The BLM did not receive any comments in opposition to the Dubois area protections identified in the Draft and Final EIS and the Proposed RMP.

A second important part of the Approved RMP's overall vision involved the five Congressionally Designated Trails that pass through the Lander planning area. The Analysis of the Management Situation identified the changes in public appreciation of the trails since 1987. The appreciation of the importance of the five Congressionally Designated Trails in the Lander planning area has increased since the existing plan was authorized. In 1987, only the National Historic Trails had protection applied beyond minimal National Historic Preservation Act requirements.

The Continental Divide National Scenic Trail had no specific protections because it was not designated in the planning area until 1999.

Since 1987, interest in the trails has increased, particularly among visitors seeking to reenact the pioneer experience. For many visitors, the trail experience is part of a sacred or spiritual practice. Users are drawn to the segments of the trails through the Lander planning area because of the mostly pristine quality of the setting. The current setting is similar to the setting at the time of the pioneers, which was the greatest voluntary emigration in the nation's history. At the same time, development pressures on other segments of the trails have resulted in a loss of quality of the trails themselves or their settings. Accordingly, the BLM identified protecting the trails and their settings as one of the highest priorities to be addressed in the new land use plan.

A third issue was greater sage-grouse. When planning efforts began in 2007, conservation measures for greater sage-grouse were needed because of its status as a BLM-designated sensitive species. In 2010, the U.S. Fish and Wildlife Service (USFWS) made a determination that listing of the greater sage-grouse under the Endangered Species Act was warranted, but precluded by higher listing priorities. Ninety-nine percent of the Lander planning area contains greater sage-grouse habitat. Seventy percent of the planning area is contained in Core Area managed consistent with the conservation strategy identified by the State of Wyoming in Executive Order 2011-05. Interagency cooperative efforts have developed landscape-based management approaches.

In response to the USFWS listing decision, the BLM, in conjunction with the U.S. Forest Service, undertook a national planning effort to revise or amend land use plans to incorporate greater sage-grouse conservation measures that would provide the regulatory certainty that the decision indicated was needed. As part of this planning effort, the BLM set up a National Technical Team to assemble information on conservation measures to address the threats identified in the USFWS listing decision. Following the release of the National Technical Team's Report on greater sage-grouse conservation, the BLM issued Instruction Memorandum 2012-044 requiring the BLM to consider applicable conservation measures in the report when revising or amending RMPs in greater sage-grouse habitat. The National Technical Team Report is available online; see the reference in the Lander Proposed RMP and Final EIS.

In March 2013, subsequent to the publication of the Lander Proposed RMP and Final EIS, the USFWS released the Conservation Objectives Team Report (COT Report) regarding greater sage-grouse conservation, which included greater sage-grouse conservation objectives and management strategies. Although it was released after the Lander Proposed RMP and Final EIS, the BLM analyzed the COT Report carefully to determine if the decisions made in the Proposed RMP required re-analysis. The BLM determined that the COT Report did not provide new information, science, or other matters that would result in significant effects outside the range of alternatives analyzed in the Final EIS. The BLM therefore determined that no supplemental EIS was necessary. This evaluation is attached as Appendix M (p. 333).

The importance of greater sage-grouse conservation is reflected in the extensive management protections adopted in this Approved RMP. Only 1 percent of the Lander planning area does not contain occupied greater sage-grouse habitat; 70 percent of the planning area contains priority habitat that has been identified as Core Area where greater sage-grouse conservation is emphasized. Accordingly, most decisions made in the Approved RMP carry a greater sage-grouse component. While other sensitive status species are found in the planning area, greater sage-grouse are ubiquitous. Except for high-elevation or urbanized areas that comprise the 1 percent of non-habitat, every decision made in the Approved RMP has the possibility of impacting, adversely or beneficially, greater sage-grouse.

With so many high-value natural resources and viewsheds in the planning area, the BLM identified the need to designate areas for development, particularly oil and gas and uranium development. Three such areas were identified where the management focus would be on mineral development, supported by an expansive network of designated ROW corridors to facilitate pipeline and transmission capacity. Emphasizing development in these areas balances the resource protections in the rest of the planning area.

2.2. Goals, Objectives, and Decisions

Table 2.1, “Management Goals Common to All Resources” (p. 34) through Table 2.38, “8000 SOCIOECONOMIC RESOURCES (SR) and HEALTH AND SAFETY” (p. 140) in Section 2.3, “Approved Resource Management Plan” (p. 33), identify the goals, objectives, and decisions for eight resource topics comprising the Approved RMP:

- **Physical Resources (PR)** – Air Quality, Geologic Resources, Soil, Water, Cave and Karst Resources, Lands with Wilderness Characteristics
- **Mineral Resources (MR)** – Locatable, Leasable – Coal, Geothermal, Oil and Gas, Oil Shale-Tar Sands, Other Solid Leasable Minerals, and Salable Minerals
- **Fire and Fuels Management (FM)** – Wildfire, Prescribed Fires and Other Fuels Treatments, and Stabilization and Rehabilitation
- **Biological Resources (BR)** – Vegetation, Fish and Wildlife, Special Status Species, and Wild Horses
- **Heritage and Visual Resources (HR)** – Cultural, Paleontological, and Visual
- **Land Resources (LR)** – Lands and Realty, Renewable Energy, Rights-of-Way and Corridors, Comprehensive Trails and Travel Management, Livestock Grazing Management, and Recreation
- **National Conservation Lands and Special Designations (SD)** – Congressionally Designated Trails, Wilderness Study Areas, Wild and Scenic Rivers, and ACECs
- **Socioeconomic Resources (SR)** – Social and Economic Conditions, Health and Safety, Environmental Justice, and Tribal Treaty Rights

Goals and objectives describe the desired outcomes for each resource topic. Management decisions are anticipated to achieve these goals and objectives.

2.2.1. Management Decisions

Section 2.3 of the *Approved Resource Management Plan* is organized by the eight resource topics listed above in order to make the document as readable as possible; however, decisions for resources, and resource uses are interconnected and a comprehensive review of all eight resource topics is required to ensure a full understanding of the Approved RMP. However, the decisions must be understood as a whole, with references to multiple sections. For example, the oil and gas section (Decisions 2008 through 2012) state the acres subject to various constraints. The reason for those constraints is generally found in other programs, such as wildlife or water quality. Resource protections can be found in multiple places, such as both the cultural and the special status species sections.

The emphasis on greater sage-grouse following the USFWS listing decision is reflected in these decisions. However, greater sage-grouse conservation measures benefit many other wildlife species and resources (viewshed, National Historic Trails settings, nonmotorized recreation, etc.). Similarly, management to protect other resources, such as limits on surface disturbance to protect viewshed, will benefit other resources such as wildlife. These points are fully explained in the Proposed RMP and Final EIS, but are repeated here to emphasize that the management decisions work as a whole and not as standalone prescriptions.

2.3. Approved Resource Management Plan

The decisions in the tables that begin on the next page will guide the BLM's management but will be implemented as necessary through NEPA compliance on a site-specific basis. The decisions will be applied consistent with BLM's applicable statutory and regulatory authority. An area may be open for ROWs but analysis may lead the BLM to deny a particular location if site-specific analysis identifies adverse impacts to other values. Early consultation with the BLM will help to identify potential conflicts in advance which will help make the approval process more efficient. Note that the meaning of various terms of art such as "avoidance" and "exclusion" are provided in the Glossary.

Table 2.1. Management Goals Common to All Resources

MANAGEMENT GOALS COMMON TO ALL RESOURCES
The BLM Lander Field Office will:
GOAL Common: 1 Manage the public lands within the requirements of all applicable federal and state laws, policy, and guidance. Manage to support valid and existing rights.
GOAL Common: 2 Use cooperative consultation with all applicable state and local governments to aid in effective cross-jurisdictional management of land and resources.
GOAL Common: 3 Manage public land resources and resource uses in consideration of all other resource values of the applicable lands.
GOAL Common: 4 Manage public land resources within the natural variations and capability of the applicable lands.
GOAL Common: 5 Require effective mitigation and encourage voluntary mitigation to offset the adverse impacts of projects or actions. Do not use offsite mitigation to justify unnecessary or undue onsite degradation.
GOAL Common: 6 Manage vegetation, soil, landform, water quantity and quality, and air quality to maintain, meet, make substantial progress towards or exceed the Wyoming Standards for Healthy Rangelands.
GOAL Common: 7 Use an integrated management approach (mechanical, chemical, or biological treatments, prescribed fire, or grazing management techniques) to achieve desired vegetative communities, to reduce fuel loading, and to control invasive species. Implement decisions consistent with Partners Against Weeds and state and local weed management plans.
GOAL Common: 8 Co-locate ROWs whenever possible.
GOAL Common: 9 Conduct appropriate project-level NEPA analysis and make consideration for levels of analyzed impacts.
GOAL Common: 10 Manage resources to contribute to the economic stability of local communities.

Table 2.2. 1000 PHYSICAL RESOURCES (PR) – AIR QUALITY

1000 PHYSICAL RESOURCES (PR) – AIR QUALITY

Goal PR: 1 Minimize the impact of decisions in the planning area on air quality by complying with all applicable air quality laws, rules, and regulations.

Objectives:

PR: 1.1 Within the BLM's authority, manage emissions of criteria pollutants to provide compliance with applicable state and federal Ambient Air Quality Standards.

Goal PR: 2 Implement decisions in the planning area to improve air quality as practicable.

Objectives:

PR: 2.1 Reduce visibility-impairing pollutants in cooperation with the Wyoming DEQ and in accordance with the reasonable progress goals and timeframes established within the State of Wyoming's Regional Haze State Implementation Plan.

PR: 2.2 Reduce atmospheric deposition pollutants to levels below generally accepted levels of concern and levels of acceptable change.

Record #	Goal/Obj.	Decisions
1001	PR: 1.1 PR: 2.1	Work cooperatively with agencies and stakeholders to develop an Air Quality Assessment Protocol to estimate potential future air quality.
1002	PR: 1.1 PR: 2.1	Define a criteria pollutant and air quality related values monitoring strategy and work cooperatively to establish a monitoring network by creating a method for siting air quality monitors in order to provide additional data for describing background concentrations.
1003	PR: 1.1 PR: 2.1 PR: 2.2	Require Best Management Practices to meet air quality goals.
1004	PR: 2.1	Require dust abatement measures for all BLM-authorized activities. Mandate dust abatement control techniques in identified problem areas.
1005	PR: 1 PR: 2.1	In cooperation with the Wyoming DEQ Air Quality Division, ensure that the BLM's prescribed fire actions comply with applicable smoke-management regulations.
1006	PR: 1.1 PR: 2.1	Utilize and enhance a cooperative process to share information on proposed emission sources and air quality issues with the public and federal, state, and county agencies.
1007	PR: 1 PR: 2	Require consistency with the Lander Air Resources Management Plan (Appendix D (p. 203)) in authorizing activities with the potential to generate air emissions.
1008	PR: 1 PR: 1.1 PR: 1.2	Require that all BLM-authorized activities minimize adverse impacts to air quality. Allow air quality impacts up to applicable standards and guidelines.

Table 2.3. 1000 PHYSICAL RESOURCES (PR) – SOIL

1000 PHYSICAL RESOURCES (PR) – SOIL		
Record #	**Goal/Obj.**	**Decisions**
Goal PR: 3 Prevent impairment of soil productivity from accelerated loss, physical or chemical degradation of the soil resource, or surface disturbance. **Objectives:** **PR: 3.1** Develop, test, and apply soil interpretations to guide the use and management of soils and related resources. **PR: 3.2** Collect and maintain soil resource information at a level of detail consistent with management needs and in accordance with the National Cooperative Soil Survey program and the BLM Wyoming Strategic Soil Survey Plan, which detail criteria that determine funding priority for areas needing soil survey information. **PR: 3.3** Manage to minimize degradation of soils. Consider prevention of soil degradation when authorizing activities. **PR: 3.4** Manage soil to achieve stability and to support the hydrologic cycle by providing for water capture, storage, and sustained release. **Goal PR: 4** Ensure that decisions are consistent with inherent soil resource capabilities. **Objective:** **PR: 4.1** Require that decisions and BLM-authorized activities consider soil suitability and limitations for the proposed use in the planning and design stages.		
N/A	N/A	Note: Reclamation goals, objectives, and decisions are found below under the *Soil Reclamation* section.
1009	PR: 3.1 PR: 3.2	Pursue and support the completion of Order 3 soil surveys.
1010	PR: 3.1 PR: 4.1	Develop/adopt a soil interpretation for soil rehabilitation potential. Consider soil suitability for proposed use and soil rehabilitation at the planning and design phase of all BLM-authorized activities. Identify areas with limited reclamation potential.
1011	PR: 3.3	Prohibit surface-disturbing activities during periods when soil material is saturated or at times when watershed damage is likely to occur. Evaluate surface-disturbing activities during periods when soil is frozen on a site-specific project level to determine the impacts to the soil and plant resources and compare these impacts on frozen soil versus non-frozen soil.
1012	PR: 3.3	Require a detailed site analysis if soil in limited reclamation potential areas (Map 8) will be disturbed.
1013	PR: 3.2-3.4 PR: 4.1	Surface-disturbing activities may be authorized with conditions of approval in areas with limited reclamation potential soils. Avoid surface-disturbing activities in areas with limited reclamation potential soils outside of DDAs whenever possible.
1014	PR: 3.3 PR: 3.4 PR: 4.1	Prohibit surface-disturbing activities on slopes greater than 25 percent (Map 7). Avoid or control surface-disturbing activities on slopes between 15 and 24 percent. Oil and gas management on slopes between 15 and 24 percent is open with CSU stipulations. ROWs authorized in Designated Corridors will require a construction and mitigation plan to prevent soil loss on slopes greater than 15 percent. See Decision Record 4009 for limits of slope related to timber harvest.

Table 2.4. 1000 PHYSICAL RESOURCES (PR) – SOIL RECLAMATION

1000 PHYSICAL RESOURCES (PR) – SOIL RECLAMATION		
Record #	**Goal/Obj.**	**Decisions**
Goal PR: 5 Require successful reclamation of surface-disturbing activities to restore healthy, functioning plant communities and watershed function. **Objectives:** **PR: 5.1** Require revegetation to stabilize surface soils, establish natural plant composition and self-perpetuating plant communities capable of supporting the post-disturbance land use. **PR: 5.2** Develop interim and final reclamation standards appropriate for resource and resource use enhancement on a project-specific basis.		
1015	PR: 5.1 PR: 5.2	Implement BLM National and Wyoming Reclamation Policies requiring the development of reclamation plans for all federal actions authorized, conducted, or funded by the BLM that disturb vegetation and/or the mineral/soil resources. Require that site-specific interim and final reclamation practices be developed and implemented that will meet the reclamation standards as identified in Appendix B (p. 187). The type and detail of the reclamation plan will be commensurate with the extent and duration of soil disturbance. For extensive disturbance such as a full-field oil and gas development, a detailed, multi-phase plan such as the Continental Divide Creston oil and gas project reclamation plan (attached as Appendix G to the Proposed RMP and Final EIS as an example) will be required.
1016	PR: 5.1 PR: 5.2	Require a full reclamation bond specific to the site for all new disturbances in accordance with 43 CFR 3104.2, 3104.3, and 3104.5 or current policy. Ensure bonds are sufficient for costs relative to reclamation (Connelly et al. 2000; Hagen et al. 2007) that would result in restoration of disturbed lands in accordance with the final reclamation standards and objectives identified in Appendix B (p. 187). Base the reclamation costs on the assumption that contractors for the BLM will perform the work.
1017	PR: 5.1 PR: 5.2	Require that surface-disturbing activities minimize the surface disturbance footprint to the maximum extent possible to limit the areas requiring reclamation. Limit disturbance of desirable vegetative communities established during interim reclamation when implementing final reclamation.
1018	PR: 5.1 PR: 5.2	Require that all reclamation plans identify the desired plant community for final reclamation.
1019	PR: 5.1 PR: 5.2	Consider wildlife habitat objectives in all final reclamation objectives. In Core Area, final reclamation objectives will be to restore greater sage-grouse habitat. Include metrics to ensure that restoration goals are met.
1020	PR: 3.3 PR: 3.4 PR: 4.1	Require site stabilization and sediment control in compliance with Wyoming Stormwater Discharge requirements and BLM reclamation policies.
1021	PR: 5.2	Require that during and following reclamation activities, the land user is responsible for monitoring to help ensure interim and final reclamation success as defined in reclamation policies and with the standards identified in Appendix B (p. 187) is achieved. Require follow-up seeding and/or other corrective or remedial erosion-control measures on areas of surface disturbance, as appropriate and, if necessary, protecting the reclaimed landscape until reclamation standards have been achieved. Monitoring and follow-up reclamation practices will continue on interim and final reclaimed areas until the standards identified in Appendix B (p. 187) have been successfully achieved.
1022	PR: 5 PR: 5.1	Identify areas with soil disturbance that were not successfully reclaimed. Priorities for reclamation of these areas are determined on a case-by-case basis with an emphasis on greater sage-grouse Core Area and other important wildlife habitat. Develop partnerships and funding sources to implement reclamation where no responsible party has the reclamation obligation.

1000 PHYSICAL RESOURCES (PR) – SOIL RECLAMATION

Record #	Goal/Obj.	Decisions
1023	PR: 5 PR: 5.1 PR: 5.2	Adapt reclamation methods to specific requirements based on plant communities within ecological sites and site-specific objectives. Incorporate reclamation objectives and require reclamation plans, including reclamation standards as identified in Appendix B (p. 187) on a site-specific basis.
1024	PR: 5 PR: 5.1	Utilize management practices, including phased development and BMPs, to achieve reclamation success. Require Reclamation Objectives and Standards as identified in all reclamation plans.
1025	PR: 5 PR: 5.1	Reclamation management practices will select native plant species based on site characteristics and ecological site descriptions. Reclamation success will be determined based on the criteria and standards identified in Appendix B (p. 187).

Table 2.5. 1000 PHYSICAL RESOURCES (PR) – WATER

<table>
<tr><th colspan="3">1000 PHYSICAL RESOURCES (PR) – WATER</th></tr>
<tr><th>Record #</th><th>Goal/Obj.</th><th>Decisions</th></tr>
<tr><td colspan="3">Goal PR: 6 Maintain or improve surface water and groundwater quantity and quality consistent with applicable state and federal standards and regulations.
Objectives:
PR: 6.1 Take appropriate actions to protect all Wyoming surface water designated uses including but not limited to fisheries, aquatic life, drinking water supplies, recreation, and agriculture, and to control all potential causes of impairment.
PR: 6.2 Maintain the physical, chemical, and biological integrity of surface waters in accordance with Standards 2 and 5 of the Wyoming Standards for Healthy Rangelands.
PR: 6.3 Enhance the physical, chemical, and biological integrity of surface waters that are functioning below proper functioning condition.
PR: 6.4 Protect Class 1 waters (Outstanding Surface Waters) as determined by the State of Wyoming.
PR: 6.5 Restore, maintain, and enhance watershed, wetland, and riparian functions.
PR: 6.6 Protect and improve groundwater quality and quantity through appropriate measures (e.g., predictive modeling, monitoring, and protection of known water recharge areas) during BLM activities and permitted actions over the life of the plan.
PR: 6.7 Coordinate with appropriate entities to rehabilitate or reclaim structurally-compromised reservoirs on BLM-administered lands.
PR: 6.8 Minimize degradation of surface water and groundwater resources. Require the treatment of surface water and groundwater that has been impacted by spills or other releases of chemicals, petroleum products, and produced water on BLM-administered lands. Require compliance with Wyoming DEQ requirements for reporting and treating the spills and releases of chemicals, petroleum products, and produced water.</td></tr>
<tr><td>1026</td><td>PR: 6.6
PR: 6.7
PR: 6.8</td><td>Identify potential surface and groundwater quality impairments through inventories and routine monitoring activities and report potential impairments to Wyoming DEQ.</td></tr>
<tr><td>1027</td><td>PR: 6.1
PR: 6.2
PR: 6.6</td><td>Require the use of BMPs and mitigation applied as Conditions of Approval to reduce point and nonpoint source pollution and to prevent groundwater contamination.</td></tr>
<tr><td>1028</td><td>PR: 6.1
PR: 6.6
PR: 6.7</td><td>Control nonpoint source pollution by improving riparian-wetland health and by controlling dust, accelerated erosion, and surface disturbances.</td></tr>
<tr><td>1029</td><td>PR: 6.1
PR: 6.3
PR: 6.5-6.8</td><td>Participate in the development, implementation, and monitoring of watershed management plans and/or total maximum daily loads with interested stakeholders including the Wyoming DEQ, to improve water quality.</td></tr>
</table>

1000 PHYSICAL RESOURCES (PR) – WATER

Record #	Goal/Obj.	Decisions
1030	PR: 6.1 PR: 6.3 PR: 6.5-6.8	Incorporate requirements and methodology for achieving watershed improvement into activity plans, as the BLM deems appropriate, on BLM-administered lands.
1031	PR: 6.1 PR: 6.4	Control sources of pollution to Class 1 waters. Collaborate with the Wyoming DEQ to prevent water quality degradation of Class 1 waters (Map 5).
1032	PR: 6.3 PR: 6.4	Prioritize management to improve water quality of waters listed on the current Clean Water Act 303(d) list, waters which do not meet Standards 2 or 5 of the Wyoming Standards for Healthy Rangelands, and those that are functioning below proper functioning conditions.
1033	PR: 6.1 PR: 6.2 PR: 6.6	Enter into agreements with state and local governments as they develop source water and wellhead protection plans that detail specific provisions to protect drinking water sources and the quality of surface water and groundwater. Consider impacts to domestic water supplies in treating invasive species.
1034	PR: 6.2 PR: 6.5	Avoid the authorization of activities likely to cause accelerated channel erosion and adverse adjustments in channel geometry (dimension, pattern, or profile).
1035	PR: 6.3 PR: 6.7 PR: 6.8	Take actions to improve the biological, chemical, and geomorphic conditions of streams and riparian-wetland areas adversely impacted by BLM-authorized activities or by activities upstream of BLM-administered lands.
1036	PR: 6.1-6.4 PR: 6.6 PR: 6.8	Integrate soil, groundwater, and surface water management to maintain or improve groundwater and surface water quality. Evaluate the need to require groundwater monitoring as part of site-specific NEPA analysis (Wyoming DEQ 2004).
1037	PR: 6.1 PR: 6.4	Manage BLM-administered lands to support in-stream flow designations.
1038	PR: 6.6	Develop and implement integrated pest management to control and eradicate invasive species with consideration of impacts to domestic water supplies.
1039	PR: 6.1	Develop and implement watershed management plans as necessary and cooperate with existing and ongoing watershed management initiatives started by other stakeholders.
1040	PR: 6.1	Partner with the Wyoming DEQ in protecting groundwater quality and quantity through monitoring plans and implementing these with the support of project proponents.
1041	PR: 6.6	Inventory reservoirs and assess condition and suitability of design to limit mosquito breeding. Identify functionally compromised reservoirs and partner with interested entities to rehabilitate or reclaim compromised reservoirs. Prioritize reservoirs in consideration of potential for failure, impacts to water quality, and importance for wild horses, wildlife, and livestock grazing. Utilize prioritization when identifying opportunities for offsite mitigations; see Washington Office Instruction Memorandum 2013-142 or subsequent guidance regarding regional mitigation.
1042	PR: 6.1	Require measures to limit degradation of water quality, such as avoiding disturbance of soils with high erosion potential, implementing zero-runoff programs on large-scale surface-disturbing activities, requiring full bonding for site reclamation, and reclaiming abandoned surface disturbances.
1043	PR: 6.2 PR: 6.5 PR: 6.6 PR: 6.8	For all projects, require the testing of precipitated solids where the BLM has documented the possibility of contamination. Require the removal of contaminated solids when identified.

1000 PHYSICAL RESOURCES (PR) – WATER

Record #	Goal/Obj.	Decisions
1044	PR: 6.1 PR: 6.2 PR: 6.3	Prioritize the identification of Sole Source Aquifers and groundwater recharge areas. Avoid surface-disturbing activities with potential to contaminate groundwater in identified or inferred groundwater recharge areas.
1045	PR: 6.1 PR: 6.2 PR: 6.3	Areas underlain by an identified Sole Source Aquifer are managed as follows: Mineral development is managed as follows: ● Open to oil and gas leasing subject to NSO stipulations ● Open to geophysical exploration ● Closed to phosphate leasing ● Open to locatable minerals ● Closed to mineral materials disposal ROW management is avoided for major and minor ROWs.
1046	PR: 6.6	Prohibit pesticide use in known or inferred aquifer recharge areas (as formally designated) and any areas underlain by a Sole Source Aquifer or Wellhead Protection Area.
1047	PR: 6.1 PR: 6.2 PR: 6.3 PR: 6.8	In cooperation with stakeholders, implement decisions to prevent degradation of groundwater and surface water quality on a case-by-case basis, utilizing existing watershed plans where possible. Require project-level NEPA analyses for energy development with cooperatively developed project-specific comprehensive groundwater and/or surface water monitoring plans consistent with state and BLM policies and regulations, as appropriate. The level of monitoring will depend on the size of the proposed project, the groundwater vulnerability, the target zone of operations, and other site-specific factors.
1048	PR: 6.1 PR: 6.2 PR: 6.5 PR: 6.8	Do not authorize permanent facilities, including roads, in 100-year floodplains (where mapped) and riparian-wetland areas (Map 4) except to benefit watershed health or vegetation. Linear watercourse crossings are considered on a case-by-case basis and authorized only with mitigation such as crossing at right angles or temporary bridges.
1049	PR: 6.1 PR: 6.2 PR: 6.5 PR: 6.8	For the protection of water quality and aquatic habitat, the area adjacent to Boysen State Park and Highway 20 (9,486 acres) is closed to oil and gas leasing (Map 11).

Table 2.6. 1000 PHYSICAL RESOURCES (PR) – CAVE AND KARST RESOURCES

1000 PHYSICAL RESOURCES (PR) – CAVE AND KARST RESOURCES		
Record #	**Goal/Obj.**	**Decisions**
Goal PR: 7 Conserve significant cave and karst resources. **Objective:** **PR: 7.1** Identify and inventory caves and karst resources and determine if they meet the significance criteria of 43 CFR 37.11(c).		
1050	PR: 7.1	As cave or karst resources are identified, develop site-specific management prescriptions to protect significant cave and karst resources, such as managing the resource as an SRMA.

Table 2.7. 1000 PHYSICAL RESOURCES (PR) – LANDS WITH WILDERNESS CHARACTERISTICS

1000 PHYSICAL RESOURCES (PR) – LANDS WITH WILDERNESS CHARACTERISTICS		
Record #	**Goal/Obj.**	**Decisions**
Goal PR: 8 Maintain existing wilderness characteristics associated with identified areas (outside of WSAs) found to contain wilderness characteristics. **Objective:** **PR: 8.1** Maintain wilderness characteristics in areas managed as non-WSA lands with wilderness characteristics.		
1051	PR: 8.1	Manage the Little Red Creek Complex, including Red Creek and portions of Torrey Rim (4,954 acres [Map 3]) to protect wilderness values.
1052	PR: 8.1	Close the Little Red Creek Complex to motorized travel and limit mechanized travel to designated routes. Locate closures at strategic locations on BLM-administered lands to be added to this document in a maintenance action; motorized travel will be allowed on some roads up to the identified closure points.
1053	PR: 8.1	Manage recreational use in the Little Red Creek Complex to maintain wilderness characteristics.
1054	PR: 8.1	Work with partners, cooperators, tribal groups, and willing landowners to pursue foot and horseback access to the Little Red Creek Complex and the adjacent U.S. Forest Service Fitzpatrick Wilderness Area (Map 3).

Table 2.8. 2000 MINERAL RESOURCES (MR)

2000 MINERAL RESOURCES (MR)		
Record #	**Goal/Obj.**	**Decisions**
Goal MR: 1 Develop available federal mineral estate. **Objectives:** **MR: 1.1** Provide opportunities to explore for, permit, and sell mineral materials. **MR: 1.2** Provide opportunities for mining claimants to explore for and develop locatable minerals. **MR: 1.3** Provide opportunities for the exploration and development of solid and fluid leasable minerals. **Goal MR: 2** Support the use of mineral resources to meet domestic demand. **Goal MR: 3** Provide protections for resource values in areas of conflict with mineral exploration and development. **Objectives:** **MR: 3.1** Manage oil and gas operations in the Beaver Rim MLP area (150,882 acres) to prevent degradation of visual and geological resources, sensitive soils, Native American or culturally significant sites, unique vegetation communities, wild horse migration routes, and headwaters of the Platte River (Map 47). **MR: 3.2** Prevent degradation of headwaters of the Sweetwater River occurring in the Beaver Rim MLP area. **MR: 3.3** Protect the visual setting of Native American sites in the Beaver Rim MLP area. **MR: 3.4** Protect paleontological resources in the Beaver Rim MLP area. **MR: 3.5** Protect the free range and genetic diversity of wild horses in the Beaver Rim MLP area. Improve opportunities for public viewing of wild horses. **MR: 3.6** Protect unique plant communities in the Beaver Rim MLP area.		
MINERALS – GENERAL		
2001	MR: 1	Do not lease coal or oil shale-tar sands.
2002	MR: 1	Incorporate proponent committed or BLM Required Design Features or mitigation such as BMPs as Conditions of Approval for any authorized mineral activity for federal minerals, regardless of surface ownership.
2003	MR: 1.3	In project-level EISs and EAs, require, on a case-by-case basis, the development of a wildlife resource monitoring and mitigation plan to address potential impacts from mineral development on wildlife populations and/or habitat.
LOCATABLE MINERALS		

2000 MINERAL RESOURCES (MR)		
Record #	**Goal/Obj.**	**Decisions**
2004	MR: 1.2	Recommend for withdrawal from locatable mineral entry (Map 9) approximately 467,065 acres. (In addition, approximately 8,634 acres are withdrawn in pre-FLPMA actions that do not expire.) See decisions under resource programs such as wildlife, cultural, and recreation for specific details of acres recommended for withdrawals. A total of approximately 2,333,402 acres are open to locatable mineral entry (Map 9).
LEASABLE MINERALS – GEOTHERMAL		
2005	MR: 1.3	1,419,567 acres of federal mineral estate are open to geothermal leasing with moderate constraints (Map 10). 609,151 acres of federal mineral estate are open to geothermal leasing with major constraints (Map 10). 700,185 acres of federal mineral estate are closed to geothermal leasing (Map 10).
2006	MR: 1.3	Constraints applied for oil and gas leasing also apply to geothermal leasing.
2007	MR: 1.3	Areas within the National Landscape Conservation System including the entire National Trails Management Corridor are closed to geothermal energy development. Additional management for National Landscape Conservation System lands is provided under Special Designations. These areas are: ● WSAs (55,338 acres) (Map 44) ● CDNST (Map 43) ● NHTs (Map 42)
LEASABLE MINERALS – OIL AND GAS		
2008	MR: 1.3	Approximately 80,198 acres of federal mineral estate are open to oil and gas leasing subject only to standard lease stipulations (Map 11). Approximately 1,419,568 acres of federal mineral estate are open to oil and gas leasing subject to controlled surface use and/or timing limitation stipulations (Map 11 and Appendix I (p. 259)). Approximately 1,137,666 acres of federal mineral estate are open to oil and gas leasing subject to NSO stipulations (Map 11 and Appendix I (p. 259)). Approximately 171,669 acres of federal mineral estate are closed to oil and gas leasing (Map 11).
2009	MR: 1.3	All oil and gas and other mineral leases are subject to standard lease stipulations. Additional stipulations may apply as otherwise specified in this RMP. In areas that are closed to mineral leasing, do not re-offer existing leases when they expire. If drainage occurs in an area closed to oil and gas leasing, authorize leasing on a case-by-case basis with an NSO stipulation.
2010	MR: 1.3	For proposed actions in greater sage-grouse Core Area, determine whether a categorical exclusion is applicable and if so, closely examine the extraordinary circumstances, if applicable, to determine whether one or more exists that would require preparation of a NEPA analysis. If a categorical exclusion applies, and no extraordinary circumstances exist, determine whether preparing a NEPA analysis would help inform decision making.
2011	MR: 1.3	Require unitization when deemed necessary for proper development and operation of an area or to facilitate more orderly (e.g., phased and/or clustered) development as a means of minimizing adverse impacts to resources, including greater sage-grouse, so long as the unitization plan adequately protects the rights of all parties, including the United States.
2012	MR: 1.3	Disposal of produced water is authorized in accordance with Onshore Oil and Gas Order #7, Disposal of Produced Water, and in compliance with state regulations. If there is Wyoming Pollutant Discharge Elimination System permitted discharge, consider soil erosion, degradation of soil quality, sedimentation, and other factors in coordination with the State of Wyoming.

2000 MINERAL RESOURCES (MR)

Record #	Goal/Obj.	Decisions
LEASABLE MINERALS – GEOPHYSICAL EXPLORATION		
2013	MR: 1.3	The planning area is open to geophysical exploration except for lands identified as closed to mineral leasing or NSO to oil and gas leasing or as otherwise provided in other decisions. Geophysical exploration is subject to motorized travel limitations and restrictions on surface-disturbing and disruptive activities.
2014	MR: 1.3	Encourage geophysical operators to share scientific information in order to minimize surface impacts.
LEASABLE MINERALS – OTHER LEASABLES (PHOSPHATE)		
2015	MR: 1.3	1,472,776 acres of federal mineral estate are open to phosphate leasing subject to standard lease stipulations (Map 13). 1,336,325 acres of federal mineral estate are closed to phosphate leasing (Map 13).
2016	MR: 1.3	All non-oil and gas mineral leases are subject to standard lease stipulations; additional stipulations may apply in some areas. In areas that are closed to mineral leasing, do not re-offer existing leases when they expire.
SALABLE MINERALS		
2017	MR: 1.1	Approximately 1,753,345 acres are open for mineral material disposal on a demand basis (Map 12) subject to resource protections. 1,055,756 acres are closed to mineral material disposal (Map 12).
2018	MR: 1.3	Identify areas disturbed by expired mineral material sales, including free-use permits and community use pits. Prioritize reclamation of these sites, starting with those in greater sage-grouse Core Area where restoration as long-term greater sage-grouse habitat is possible. Next in priority are those in riparian-wetland areas, ACECs, the National Trails Management Corridor, VRM Class II areas, non-Core Area greater sage-grouse habitat, and wildlife migration corridors. Seek partnerships with others to complete restoration, including applicants seeking suitable offsite mitigation opportunities.
DESIGNATED DEVELOPMENT AREAS (DDAs)		
2019	MR: 1.1 MR: 1.2 MR: 1.3	Establish DDAs for intensive mineral exploration, development, and production (364,630 acres) (Map 47).
2020	MR: 1.3	New fluid and solid mineral leases and mineral material disposals in DDAs will include stipulations as provided in Appendix I (p. 259). Stipulations will be reviewed at the permit stage or in the annual operating plan for locatable mineral projects and not applied unless required to follow federal laws and policies, or the BLM identifies a site-specific real-time need for the stipulation. Review of requests for exception in DDAs will be expedited. Wildlife seasonal protections for maintenance and operation actions will not be applied inside DDAs. Refer to Appendix F (p. 233).
2021	MR: 1.1 MR: 1.2 MR: 1.3	Exceptions to timing limitations for threatened and endangered species and migratory bird species are granted only in consultation with the USFWS and if migratory bird-take permits or other required permits are obtained.
2022	MR: 1.1	Reclamation will be required in accordance with DDA interim and final reclamation objectives in Appendix B (p. 187).
2023	MR: 1.1 MR: 1.2 MR: 1.3	Federal lands and mineral estate not inside a DDA may be designated and managed as DDAs if project-specific environmental analysis determines that adverse impacts to other resources can be successfully mitigated with design features, operating methods, and other mitigation, and if a geology and/or reservoir analysis determines that extraction efficiently and adequately produces the mineral resource. Designation of new areas as DDAs or expansion of an existing DDA requires an RMP amendment.
MASTER LEASING PLANS (MLPs) – BEAVER RIM AREA		

2000 MINERAL RESOURCES (MR)		
Record #	**Goal/Obj.**	**Decisions**
2024	MR: 3	Oil and gas leasing in the Beaver Rim area (150,882 acres [Map 47]) is subject to the following management: ● 29,567 acres in the Beaver Rim MLP area are open to oil and gas leasing subject to an NSO stipulation. ● The remainder of the MLP area (121,255 acres) is open to oil and gas leasing subject to CSU stipulations. If any of these acres are determined to be within a mapped floodplain before the lease is issued, an NSO stipulation, rather than a CSU stipulation will be applied.
2025	MR: 3.1 MR: 3.3	In VRM Class II areas of the Beaver Rim MLP area: ● Visual simulations in accordance with VRM directives will be required. ● Manage the landscape associated with Beaver Rim so that visitors continue to enjoy the unique geologic, topographic, and natural features, and Native American cultural sites.
2026	MR: 3.1 MR: 3.3	In VRM Class III areas of the Beaver Rim MLP area: ● Roads should be sited to follow the contours of the landscape and co-located unless that is not technically feasible. ● Site wells so they will be less visible and where cuts and fills can be minimized. ● Consolidate and use low-profile equipment. ● Paint equipment to blend with the background. ● Bury pipelines. ● Place all linear disturbance such as powerlines in common corridors. ● Additional management may be required on a site-specific basis to lessen adverse impacts to visual resources and sensitive soils.
2027	MR: 3.1 MR: 3.2 MR: 3.6	Final reclamation of oil and gas surface disturbance will restore the original landform and reestablish the native plant community. Reclamation will improve riparian-wetland conditions in the Beaver Rim MLP area.
2028	MR: 3.1 MR: 3.2 MR: 3.3 MR: 3.5 MR: 3.6	Make parcels in the Beaver Rim area available for lease starting in the CSU areas outside of crucial winter range. Allow no more than 5 percent surface disturbance in the township in which the parcel is located until interim reclamation goals are achieved. Require co-location of new disturbance if technically feasible. If new disturbances cannot be co-located, they must be at least 1.2 miles from existing disturbance.
2029	MR: 3.1 MR: 3.2	Apply a riparian-wetland setback greater than 500 feet where NEPA analysis determines that a longer distance is needed to protect riparian-wetland resources.
2030	MR: 3.2	Require watershed monitoring, including wetlands, to verify the effectiveness of watershed protections. Monitoring protocols will establish key variables, such as depth of standing water, duration of saturation, temperature, sediment loading, and other metrics, as determined on a site-specific basis. Strengthen protections, including BMPs, when monitoring indicates ongoing degradation or inadequate benefits from mitigation, including additional site protections and wetland restoration.
2031	MR: 3.1 MR: 3.3	Pending the results of tribal consultation, do not authorize surface disturbance within 0.25 mile of sites known to be of interest to Native American tribes (e.g., stone circles, cairns, rock art) as mapped in the Lander Field Office Geographic Information System database. Following tribal consultation, apply site-specific management that will protect Native American spiritual and/or cultural values.
2032	MR: 3.4	Develop an inventory of fossil localities in areas identified as high or very high potential fossil yield classification to be used in managing mineral activities to protect paleontological resources (see the *Paleontological Resources* section).
2033	MR: 3.4	Prior to leasing any parcels in the Beaver Rim area, the special management prescriptions identified in the *Paleontological Resources* section regarding inventories will be completed.

2000 MINERAL RESOURCES (MR)		
Record #	**Goal/Obj.**	**Decisions**
2034	MR: 3.5	To support genetic diversity among wild horse populations, do not authorize fences in Herd Management Areas in the Beaver Rim MLP area unless necessary to improve riparian-wetland conditions. Avoid siting roads and other linear disturbances in the Beaver Rim MLP Herd Management Areas.
2035	MR: 3.6	Avoid surface disturbance in unique plant communities.

Table 2.9. 3000 FIRE AND FUELS MANAGEMENT (FM)

3000 FIRE AND FUELS MANAGEMENT (FM)		
Record #	**Goal/Obj.**	**Decisions**
Goal FM: 1 Protect human life, property, and communities at risk from fire, and enhance and protect the public land resources through vegetation management and the response to wildland fire. **Objectives**: **FM: 1.1** The BLM will first provide for firefighter and public safety in every fire management activity. **FM: 1.2** Maintain partnerships with interagency cooperators to strengthen coordination of all fire suppression and fuels management activities. **FM: 1.3** Promote community assistance. Enhance the fire prevention and public education programs regarding wildland fire management and vegetation management activities. **FM: 1.4** Conduct appropriate emergency stabilization and rehabilitation where necessary after wildfire to address current and anticipated trends to resource values at risk.		
Goal FM: 2 Manage fire and fuels to restore or maintain natural ecosystem functions, restore fire-adapted ecosystems, reduce losses from landscape-level wildland fire, and protect multiple-use values. **Objectives:** **FM: 2.1** Consistent with the 10-year Comprehensive Strategy, prioritize and implement hazardous fuels reduction treatments where the adverse impacts of wildland fire are greatest. **FM: 2.2** Consult and cooperate with private landowners, affected partners, and local, state, tribal, and other federal agencies on individual treatments (such as prescribed fire and biological, mechanical, and chemical treatments) designed to reduce or modify hazardous fuels accumulations. **FM: 2.3** Working with private landowners, affected partners, and local, state, tribal, and other federal agencies, identify areas for potential use of wildland fire to protect, maintain, and enhance resources through collaborative development of operational plans. **FM: 2.4** Restore natural fire regimes and frequency to the landscape. **FM: 2.5** Using the best available science and on-the-ground inventory, determine the existing condition class of vegetation communities and manage landscapes to improve condition class and ecological conditions described in the NRCS Ecological Site Descriptions. **FM: 2.6** Utilize fuels and vegetation treatments to maintain and enhance greater sage-grouse habitat where applicable.		

3000 FIRE AND FUELS MANAGEMENT (FM)		
Record #	**Goal/Obj.**	**Decisions**
3001	FM: 1.1-1.4	Utilize a full suite of wildland fire suppression tactics based on a full evaluation of the highest priority of firefighter and public safety and other factors, such as the circumstances under which a fire occurs, the threat to human infrastructure, important natural and cultural resources, and other values to be protected. Coordinate responses to wildland fire across jurisdictional boundaries. Conduct emergency stabilization and rehabilitation as needed.
3002	FM: 1.2	Use Minimum Impact Suppression Tactics for wildfire suppression where appropriate, with special consideration for areas of significant cultural resources, historic trails, areas with significant wildlife habitat, biologically sensitive areas, and in areas of visual resource sensitivity unless human life or public safety is threatened.
3003	FM: 1.1 FM: 1.4	Full suppression of wildland fire is used within the wildland urban interface and in areas of high resource values. In consideration of other resources, a full range of wildland fire suppression tactics are allowed throughout the planning area, including the use of unplanned ignition to achieve resource benefit.
3004	FM: 2.6	In greater sage-grouse Core Area, prioritize suppression to conserve the habitat. Where applicable and technically feasible, apply greater sage-grouse BMPs such as those identified in Appendix E (p. 217).
3005	FM: 1.2	Restrict the use of aerial applied fire retardant near identified rock art sites unless values at risk, such as human life and safety, require their use.
3006	FM: 1	Do not aerially apply fire retardants during suppression activities within 300 feet of any waterbody. Do not apply fire retardants within 500 feet of waterways that support Yellowstone cutthroat trout, burbot, and sauger unless values at risk require the use of retardants within 500 feet from identified waterways.
3007	FM: 1.1 FM: 2.1 FM: 2.2 FM: 2.5	Use chemical, biological, and mechanical treatments to reduce the risk of landscape-level wildfire within priority areas. Alter fuel loading and improve ecological condition of vegetation communities. Consider the presence and potential for noxious and nonnative plant species when designing wildland fire response and fuels treatments.
3008	FM: 1.1 FM: 2.1 FM: 2.2 FM: 2.5	Use personal use and commercial vegetation sale permits, where not otherwise constrained or prohibited, for removal of firewood, post and pole, Christmas trees, sawlogs, and wildlings, for hazardous fuels management.
3009	FM: 2	Monitor fuels treatment and wildfire burn areas for sufficient time after treatment or fire event in order to determine short-term and long-term project success, detect weed infestations and accelerated soil erosion, and assess overall vegetation recovery. Utilize all available rehabilitation tools to control weed infestation and accelerated soil erosion. Implement post-treatment rest of treated areas from livestock grazing for two full growing seasons on all prescribed or wildland fire burn areas unless vegetation recovery dictates otherwise.
3010	FM: 2.5	Partner with the University of Wyoming and other research entities to develop a greater understanding of the ecology and disturbance regime of sagebrush steppe, woodland, and forested vegetation communities found within the planning area. Use this information to develop a regionally specific scientific foundation for vegetation management activities.
3011	FM: 1.2 FM: 2.3 FM: 2.4 FM: 2.5	Inventory the Fire Regime Condition Class (Map 14) of the vegetative communities found within the fire management units (Map 15). In coordination with stakeholders and in consideration of greater sage-grouse Core Area objectives, prioritize areas requiring treatment and utilize appropriate vegetation treatment techniques to improve the condition class across a landscape. Prioritize those projects in areas with the greatest benefits to wildlife and the highest likelihood of landscape-level wildfire.

3000 FIRE AND FUELS MANAGEMENT (FM)		
Record #	**Goal/Obj.**	**Decisions**
3012	FM: 2.6	Allow vegetation treatments in greater sage-grouse Core Area that conserve, enhance, or restore greater sage-grouse habitat excluding the use of prescribed fire unless specifically for the purpose of greater sage-grouse habitat improvement (this includes treatments that benefit livestock as part of an allotment management plan/conservation plan to improve greater sage-grouse habitat). In suitable habitat within greater sage-grouse Core Area, incorporate specific greater sage-grouse habitat objectives and apply appropriate seasonal restrictions for implementing vegetation management treatments. In identified greater sage-grouse winter concentration areas, vegetation treatments should emphasize strategically reducing wildfire risk around or in the winter concentration areas and maintaining winter concentration habitat quality. Prioritize restoration treatments in areas that are thought to limit greater sage-grouse distribution and/or abundance. Focus vegetation treatments outward from existing, intact greater sage-grouse habitat. Utilize BMPs, such as those in Appendix E (p. 217) and other current habitat management guidelines, when designing and implementing the project.
3013	FM: 1.1 FM: 1.4	In suitable greater sage-grouse Core Area, do not reduce sagebrush canopy cover to less than 15 percent within a defined treatment polygon unless a vegetation management objective requires additional reduction in sagebrush cover to protect or to conserve habitat quality for greater sage-grouse or other sagebrush steppe obligate species. Maintain sagebrush and understory diversity (relative to ecological site description) unless such removal is necessary to achieve greater sage-grouse habitat management objectives. Remove conifers or reduce the density of conifers that have encroached into sagebrush plant communities.
3014	FM: 2.3 FM: 2.4	Outside of greater sage-grouse Core Area, emphasize the reintroduction of fire into its natural role in the ecosystem in consideration of Decision Record 3016. Where possible, use wildland fire and prescribed fire to achieve management objectives, including reducing hazardous fuel loading, restoring vegetation communities, improving and/or protecting wildlife habitat, enhancing forage production, and addressing forest and woodland health issues such as pine beetle outbreaks.
3015	FM: 2.2 FM: 2.3	Cooperate with stakeholders to conduct landscape level treatments resulting in enhanced fuels management and/or restoration of fire-adapted ecosystems. In cooperation with stakeholders, manage to promote the growth and persistence of native shrubs, grasses, and forbs.
3016	FM: 2	Limit the use of fire to treat areas receiving less than 12 inches of annual precipitation. Prescribed fire to reduce hazardous fuels or enhance land health in areas receiving less than 12 inches of annual precipitation could be utilized after exploring other potential treatment methods and in areas where the relative resistance and relative recovery rate of the site allows for the successful post-fire reestablishment of desired native vegetation.
3017	FM: 2	Utilizing Required Design Features and BMPs applied as Conditions of Approval, establish fuels treatment projects at strategic locations to minimize the size of wildfires. Restore native or desirable plants and create landscape patterns to benefit wildlife. Power wash all fire vehicles including engines, water tenders, personnel vehicles, and OHVs after they have been in the field to help prevent the establishment or spread of invasive weeds.

Table 2.10. 4000 BIOLOGICAL RESOURCES (BR) – VEGETATION – GENERAL

4000 BIOLOGICAL RESOURCES (BR) – VEGETATION – GENERAL		
Record #	**Goal/Obj.**	**Decisions**

Goal BR: 1 Manage vegetation communities to restore, maintain, or enhance vegetation community health, composition, and diversity. Provide a mix of natural succession stages that incorporate diverse structure and composition into each vegetation type.

Objectives:

BR: 1.1 Maintain, improve, enhance, or restore habitat to facilitate the conservation, recovery, and maintenance of populations of native and desirable nonnative plant species.

BR: 1.2 Maintain, improve, or enhance areas of ecological importance, priority plant species and habitats, and unique plant communities.

BR: 1.3 Maintain, improve, or enhance sustainable forage levels for all grazing and browsing animals depending upon identified desirable vegetation communities and desired future condition.

BR: 1.4 Utilize mechanical, chemical, and biological methods, including fire and livestock grazing, to achieve desirable vegetation communities with consideration of the area's precipitation and the potential for the introduction or the spread of invasive species and the BLM's ability to provide post-treatment monitoring and management.

BR: 1.5 Manage grazing and browsing use levels in consideration of plant, riparian-wetland resources, and soil health requirements as identified in the Standards for Healthy Rangelands.

BR: 1.6 Maintain, restore, and enhance aspen, forest, woodland, and non-sagebrush shrub communities for a healthy mix of successional stages and vegetation types. Emphasize stand diversity, sustainability, and habitat value and in consideration of other resources and uses in forest and woodland communities.

BR: 1.7 Manage vegetation communities across the landscape to improve Fire Regime Condition Class.

BR: 1.8 Manage vegetative resources to optimize protection and recovery from drought, disease, insect infestations, and wildfire.

BR: 1.9 Coordinate with local, state, and federal agencies and stakeholders to protect and enhance the recovery of vegetative resources and other habitat components affected by dry conditions, drought, disease, severe insect infestations, noxious weeds and invasive species, and wildfires.

Goal BR: 2 Maintain, enhance, or restore forest-stand community health, composition, and diversity to an ecologically appropriate mosaic considering factors such as density, basal area, canopy cover, age class, stand health, successional stages, and understory.

Objectives:

BR: 2.1 Limit infestation and epidemics in forests and woodlands as much as possible by managing for endemic populations of native insects, diseases, and pathogens.

BR: 2.2 Maintain and protect characteristics and composition of mature forest and woodland communities with old-growth characteristics.

BR: 2.3 Improve opportunities to sustainably harvest forest products in identified areas while providing for other forest values and uses. Improve forest and woodland health to protect watershed values and support wildlife habitat requirements.

4000 BIOLOGICAL RESOURCES (BR) – VEGETATION – GENERAL		
Record #	**Goal/Obj.**	**Decisions**
4001	BR: 1.2	Manage forests and woodlands to improve stand diversity and sustainability. Consider other resources and resource uses while following Wyoming Silvicultural BMPs (Appendix E (p. 217)).
4002	BR: 1 BR: 1.2 BR: 1.5 BR: 2 BR: 2.2 BR: 2.3	Update and complete inventory of forests and woodlands, identifying characteristics such as areas of woodland encroachment, areas of unique or old-growth characteristics or ecological significance, areas of damage from insect and disease, fuel loading within the wildland urban interface, general forest and woodland health, and areas suitable for commercial timber sales.
4003	BR: 1.1 BR: 1.2 BR: 2.1	Manage old-growth and unique forest and woodland communities, including some overstory removal as appropriate, to maintain the ecological characteristics unique to the site(s).
4004	BR: 1.6 BR: 2	Actively promote aspen regeneration throughout the planning area using a variety of treatment methods to enhance wildlife habitat and improve overall ecological health.
4005	BR: 1.9	Cooperate with other agencies, partners, adjacent landowners, and other relevant parties to develop cooperative partnerships and implement landscape-wide, cross-boundary forest management within the South Pass, Lander Slope, Green Mountain, and Dubois Primary Forest Resource Areas (Map 16).
4006	BR: 1.4 BR: 1.8	Identify areas in which wildland fire could be implemented as a management tool to enhance forest and woodland health.
4007	BR: 2.1	Allow the sale of personal use permits to meet public demand for posts and poles, firewood, sawlogs, Christmas trees, burlwood, and other vegetative products consistent with forest health objectives and wildlife habitat requirements. After NEPA analysis, authorize commercial use for seed collections for use in habitat restoration or research.
FORESTS AND WOODLANDS		
4008	BR: 1 BR: 1.1 BR: 1.2	Manage forests and woodlands in response to conditions on the ground, including forest health, wildlife habitat, and demand for forest products.
4009	BR: 1.9 BR: 2.3	Authorize the full range of silvicultural techniques such as thinning, selective cuts, and prescribed fire to maintain forest and woodland health and to reduce the risk of mortality by insects, disease, and wildfire. Allow clear-cuts and determine clear-cut size, location, and slope based on a combination of resource values and silvicultural objectives on a site-specific basis.
4010	BR: 1.2 BR: 1.8-1.9 BR: 2.1	Manage forest insect and disease outbreaks on a case-by-case basis.
4011	BR: 1.3 BR: 2	Implement forest replanting after sale, vegetative treatment, or fire on a case-by-case basis if natural regeneration does not occur within a timeframe appropriate for vegetative type.
4012	BR: 1.3 BR: 1.4 BR: 1.5 BR: 2	Develop a forest management plan for the Green Mountain Primary Forest Resource Area, and as funding permits, for the South Pass and Dubois Primary Forest Resource Areas (Map 16) for commercial and over-the-counter forest product sales, enhancement of forest health, addressing fuel loading within the wildland urban interface, and management of pine beetle and other infestation. Manage the Lander Slope and Red Canyon as one forest management area. Prohibit commercial forest product sales in this area unless necessary because of human health and safety issues (wildland urban interface) or to improve wildlife habitat and overall forest health.

Table 2.11. 4000 BIOLOGICAL RESOURCES (BR) – VEGETATION – GRASSLAND AND SHRUBLAND COMMUNITIES

4000 BIOLOGICAL RESOURCES (BR) – VEGETATION – GRASSLAND AND SHRUBLAND COMMUNITIES		
Record #	**Goal/Obj.**	**Decisions**
4013	BR: 1.1 BR: 1.3 BR: 1.6	Manage for specific species and vegetative attributes (plant density, composition, cover, and diversity) using ecologically sustainable practices.
4014	BR: 1 BR: 1.1 BR: 1.2 BR: 1.4	Manage grazing in sagebrush communities in accordance with the site's ecological site description to accommodate the plant growth requirements of the larger cool season bunchgrasses such as needle and thread, bluebunch wheatgrass, green needlegrass, and Indian ricegrass in order to maintain or improve population density and frequency for these species.
4015	BR: 1.2	Identify unique plant communities and manage to protect, preserve, or enhance these communities.
4016	BR: 1 BR: 1.1 BR: 1.2 BR: 1.3	Manage vegetation communities for vegetative attributes described in NRCS Ecological Site Guides and to meet identified vegetative goals. When existing Ecological Site Descriptions have not been developed, are too general, or are not correct to serve adequately as benchmarks, identify and document local areas of similar potential within each specific ecological site that exemplify achievement of appropriate habitat objectives, and use these sites for the development of new reference sheets to be used as the benchmark reference.
4017	BR: 1.1-1.5	Use vegetation treatments to change plant community composition in a manner that achieves wildlife objectives, rangeland health objectives, and facilitates grazing management. Ensure that projects conform to resource objectives for the site.

Table 2.12. 4000 BIOLOGICAL RESOURCES (BR) – INVASIVE SPECIES AND PEST MANAGEMENT

<table>
<tr><th colspan="3">4000 BIOLOGICAL RESOURCES (BR) – INVASIVE SPECIES AND PEST MANAGEMENT</th></tr>
<tr><th>Record #</th><th>Goal/Obj.</th><th>Decisions</th></tr>
<tr><td colspan="3">**Goal BR: 3** Manage for healthy native plant communities by reducing, preventing expansion of, or eliminating the occurrence of invasive nonnative species, undesirable vegetation, or noxious weeds, and predatory plant pests or disease by implementing decisions consistent with goals included in Partners Against Weeds and consistent with state and local weed management plans.
Objectives:
BR: 3.1 Maintain adequate baseline information, and inventory and monitoring data, regarding the extent and control of invasive species. Evaluate effectiveness of decisions, and assess progress toward goals to improve invasive species management. Develop a prevention and early detection program.
BR: 3.2 Coordinate with adjoining jurisdictions in management and control of invasive nonnative species across jurisdictional and political boundaries.
BR: 3.3 Include provisions for invasive nonnative species management in all BLM-funded or authorized actions.
Goal BR: 4 Support internal and external education and awareness of noxious weeds.
Objective:
BR: 4.1 Develop and deploy educational and public awareness programs and materials in cooperation with other agencies and organizations.
Goal BR: 5 In all parts of the planning area, manage for the reduction, prevention, and halting the expansion of cheatgrass. Emphasize the prevention of invasive annual grass and woody plants in greater sage-grouse Core Area.</td></tr>
<tr><td>4018</td><td>BR: 3
BR: 3.1-3.3</td><td>Use integrated pest management including fire and mechanical/chemical treatments to control weeds. Reseed or replant as necessary to promote vegetative growth in consultation and cooperation with interested parties.</td></tr>
<tr><td>4019</td><td>BR: 3.1
BR: 3.3
BR: 4
BR: 4.1
BR: 5</td><td>Cooperate with other federal and state agencies, counties, conservation districts, Weed and Pest Management Areas, and other entities to control weed infestation. Cooperate with the Animal and Plant Health Inspection Service and other stakeholders to control grasshoppers and Mormon crickets on BLM-administered lands in conjunction with control efforts initialized on adjoining non-federal lands.</td></tr>
<tr><td>4020</td><td>BR: 3.1-3.3</td><td>Manage weed treatments to maintain and improve greater sage-grouse habitat. Apply Required Design Features and BMPs as Conditions of Approval, such as those in Appendix E (p. 217).</td></tr>
<tr><td>4021</td><td>BR: 3.2
BR: 3.3
BR: 5</td><td>Require the use of certified noxious-weed free forage, mulch, and other land-applied products for BLM-authorized activities on BLM-administered lands.</td></tr>
</table>

4000 BIOLOGICAL RESOURCES (BR) – INVASIVE SPECIES AND PEST MANAGEMENT

Record #	Goal/Obj.	Decisions
4022	BR: 3.2 BR: 3.3 BR: 4.1 BR: 5	Should invasive nonnative species become established in a location, develop and implement site-specific plans to eradicate/control invasive weeds for all surface-disturbing activities in the immediate vicinity. Priority for control will be: (1) Wyoming Declared Weed and Pest Species, (2) those weeds on the Western States Combined Declared Noxious Weed List, (3) those annual/biennial invasive weeds interfering with reclamation efforts, and (4) those invasive nonnative species interfering with a management objective.
4023	BR: 3.3 BR: 5	Require that equipment and vehicles used for BLM-authorized activities be cleaned for seeds of noxious weeds and invasive nonnative species before moving onto BLM-administered lands. Prohibit project vehicles accessing BLM-administered lands via cross-county travel from driving through infestations during access to the site. If the area on which BLM-authorized activities take place is identified as being a high risk for invasive and/or noxious weeds, require that vehicles be cleaned before leaving the worksite and include prescriptions for the disposal of wash water.
4024	BR: 5	Develop a plan to manage cheatgrass in coordination with other agencies and individuals, with the local County Weed & Pest Control Districts acting as the point of contact among all parties.
4025	BR: 3.3	If the Authorized Officer determines that BLM-authorized activities are contributing to the spread of noxious or invasive species, adjust the terms of the authorized activity to aid in the control of the species.
4026	BR: 3.3	If the Authorized Officer determines that livestock are likely carrying ingested seeds of invasive nonnative species, the Authorized Officer may require that livestock be flushed for weeds for a period of 72 hours before allowing livestock to move onto BLM-administered lands.
4027	BR: 4.1 BR: 5	Develop and implement a program promoting public awareness of Wyoming Declared Noxious Weeds and Pests as well as invasive nonnative species.

Table 2.13. 4000 BIOLOGICAL RESOURCES (BR) – RIPARIAN-WETLAND RESOURCES

<table>
<tr><th colspan="3">4000 BIOLOGICAL RESOURCES (BR) – RIPARIAN-WETLAND RESOURCES</th></tr>
<tr><th>Record #</th><th>Goal/Obj.</th><th>Decisions</th></tr>
<tr><td colspan="3">Goal BR: 6 Maintain, enhance, or restore riparian-wetland areas to support biodiversity and provide the appropriate natural potential combination of vegetation, landform, or large woody debris to: (a) dissipate stream energy associated with high water flows or energies associated with wind and/or wave action and overland flow from adjacent sites, (b) reduce erosion and improve water quality, (c) filter sediment, (d) capture bedload, (e) allow for floodplain development, (f) improve floodwater retention and groundwater recharge, (g) develop root masses that stabilize stream banks, islands, and shoreline features against cutting action, (h) allow for natural rates of water percolation, and (i) develop diverse ponding and channel characteristics to provide the habitat and the water depth, duration, and temperature necessary for fish production, waterfowl breeding, and other uses.

Objectives:

BR: 6.1 Develop recovery management prescriptions for riparian-wetland areas that are not functioning properly and/or have impaired water quality.

BR: 6.2 Develop management plans capable of ensuring riparian-wetland areas will achieve or exceed proper functioning conditions.

BR: 6.3 Manage all resources and resource uses to maintain, enhance, or restore riparian-wetland habitats.

BR: 6.4 Maintain, enhance, or restore aquatic ecosystems including stream geomorphology.</td></tr>
<tr><td>N/A</td><td>N/A</td><td>Note: Vegetation Goals BR: 1-2 apply to riparian-wetland resources as well.</td></tr>
<tr><td>4028</td><td>BR: 6</td><td>Identify riparian-wetland management actions to promote biodiversity and develop an implementation plan to incorporate actions into BLM-authorized activities. Manage riparian-wetland areas and wet meadows to achieve or maintain diverse species richness that includes a component of perennial forbs in conjunction with desirable riparian sedges, rushes, bulrushes, and grasses, as appropriate.</td></tr>
<tr><td>4029</td><td>BR: 6.1-6.4</td><td>Implement management actions to have riparian-wetland areas meet or exceed proper functioning conditions and Standard 2 of the Wyoming Standards for Healthy Rangelands.</td></tr>
<tr><td>4030</td><td>BR: 6.1-6.3</td><td>Use all tools to make significant progress towards proper functioning conditions, including but not limited to, making adjustments in livestock grazing such as season of use, rest/deferment, modification of the number of livestock, and installing range improvement projects designed to implement comprehensive livestock grazing strategies, travel management (i.e., road closures), and other authorizations.</td></tr>
<tr><td>4031</td><td>BR: 6.2
BR: 6.3
BR: 6.4</td><td>In DDAs, prohibit surface-disturbing activities within 500 feet of surface water, riparian-wetland areas, and playas unless on a site-specific basis a lesser distance is shown to provide equivalent protection (Map 4).

Outside of DDAs, prohibit surface-disturbing activities within 500 feet of surface water, riparian-wetland areas, and playas unless activities are determined to be necessary and when impacts can be mitigated (Map 4).</td></tr>
<tr><td>4032</td><td>BR: 6.4</td><td>Design ROW water channel crossings to limit impacts to riparian-wetland areas.</td></tr>
</table>

Table 2.14. 4000 BIOLOGICAL RESOURCES (BR) – FISH AND WILDLIFE

4000 BIOLOGICAL RESOURCES (BR) – FISH AND WILDLIFE		
Record #	**Goal/Obj.**	**Decisions**
Goal BR: 7 Manage for the biological integrity and habitat function of terrestrial and aquatic ecosystems to sustain and optimize distribution and abundance of all native and desirable nonnative fish and wildlife species consistent with habitat capability.		
Objectives:		
BR: 7.1 Manage habitats to support WGFD in the attainment of big game herd unit objectives, fish management objectives, and well-distributed, healthy populations of fish and wildlife species consistent with the WGFD's Strategic Habitat Plan, State Wildlife Action Plan, and strategic population plans, and to achieve the stated purpose of designated Wildlife Habitat Management Areas.		
BR: 7.2 Maintain habitats sufficient to fulfill the life-cycle requirements of diverse fish and wildlife species. Manage to protect important breeding and natal or parturition habitats for terrestrial and aquatic species.		
BR: 7.3 Maintain or improve habitat integrity, continuity, connectivity and productivity for fish and wildlife on a landscape scale.		
BR: 7.4 Provide barrier-free movement and habitat protection from disturbance and fragmentation in identified wildlife migration routes and fish passages.		
BR: 7.5 Maintain, restore, or enhance fisheries habitats so they achieve optimal channel geomorphology and vegetative structure for productivity and biological diversity.		
BR: 7.6 Provide healthy and stable ecosystems that support fish and wildlife habitat values, appropriate species' habitat needs, and the existing species' diversity.		
Goal BR: 8 Manage direct, indirect, and cumulative impacts to fish and wildlife and their habitats such that no unnecessary or undue degradation results from BLM actions and authorized activities.		
Objectives:		
BR: 8.1 In the absence of offsite mitigation or in areas with site-specific allowances, manage for no greater than a 10 percent net loss of acres of big game crucial winter range and parturition habitat over the life of the plan.		
BR: 8.2 Implement proactive management and conservation measures to prevent and/or reduce adverse impacts to wildlife and aquatic species.		
BR: 8.3 Coordinate with U.S. Department of Agriculture Wildlife Services to avoid non-target species mortality and minimize other disturbances to fish and wildlife from predator control activities.		
BR: 8.4 Maintain and protect critical fish spawning, egg incubation, and fry areas.		

4000 BIOLOGICAL RESOURCES (BR) – FISH AND WILDLIFE

Goal BR: 9 Manage terrestrial and aquatic ecosystems to provide recreational and educational benefits and opportunities for the public.

Objectives:

BR: 9.1 Improve public awareness and support, including partnerships, for the conservation, restoration, and management of vegetation, fish, wildlife, and special status species programs.

BR: 9.2 Work with partners to develop and provide fish, wildlife, and habitat outreach and educational materials to the public.

BR: 9.3 Identify and provide opportunities for consumptive, non-consumptive, or recreational use of fish and wildlife and their habitats.

Goal BR: 10 Manage for quality habitats that would support the introduction, reintroduction, and augmentation of identified high-priority fish and wildlife species on BLM-administered lands.

Objective:

BR: 10.1 Identify opportunities in coordination with stakeholders to introduce or reintroduce fish and wildlife species.

GENERAL FISH AND WILDLIFE

Record #	Goal/Obj.	Decisions
N/A	N/A	Please refer to the *Special Status Species* section for additional decisions affecting fish and wildlife species. Please see Appendix J (p. 303) for a listing of the common and scientific names for species mentioned here.
4033	BR: 7.2	Choose and implement appropriate mitigation and BMPs/Required Design Features to minimize decreases in habitat function. Mitigate impacts as near to the impact, for the same or similar impacted species or habitats, as soon as possible. In cases where impacts cannot be mitigated to an acceptable level onsite or where the BLM and WGFD agree that mitigation or additional habitat protections farther away will be of greater benefit to wildlife, consider offsite mitigation; see the latest guidance on offsite mitigation including regional mitigation. Apply the same conservation measures on split-estate lands unless, in the case of federal minerals, this would not be consistent with the surface owner's rights.
4034	BR: 7.3	Minimize adverse impacts to fish and wildlife during the life of projects through project placement and maintenance of connectivity between large contiguous blocks of undisturbed habitat in cooperation with interested stakeholders. Require seasonal restrictions or other identified mitigation as needed to minimize impacts to migratory birds and their habitats protected by the Migratory Bird Treaty Act.
4035	BR: 8.2	Use an integrated management approach (mechanical, chemical, or biological treatments, prescribed fire, and grazing management techniques) to manipulate vegetative communities to achieve fish, wildlife, and watershed objectives. See the *Special Status Species* section for limitations on the use of prescribed fire in greater sage-grouse habitat.
4036	BR: 7.3 BR: 7.4	Remove or modify identified wildlife hazard fences that are adversely affecting wildlife where opportunities exist. Require wildlife escape ramps be installed in stock water troughs and tanks. See the *Wildlife* section for decisions regarding fences in migration corridors.
4037	BR: 8.3	Coordinate BLM-authorized animal damage control with the Animal and Plant Health Inspection Service-Wildlife Services and other agencies using guidance provided by the existing Memorandum of Understanding with the Animal and Plant Health Inspection Service.
4038	BR: 8.1 BR: 9.2-9.3	Identify opportunities to develop wildlife viewing areas in cooperation with stakeholders.

4000 BIOLOGICAL RESOURCES (BR) – FISH AND WILDLIFE		
Record #	**Goal/Obj.**	**Decisions**
4039	BR: 10.1	Cooperate with and provide support to WGFD, USFWS, and stakeholders in reintroducing native fish and wildlife species into historic or suitable ranges.
4040	BR: 8.2	Require monitoring of impacts to wildlife from wind-energy development and apply appropriate mitigation.
4041	BR: 7.6 BR: 9.3	The Dubois, Red Canyon, Lander Slope, and Green Mountain ACECs, greater sage-grouse Core Area, and the Sweetwater River watershed are priorities for management of fish and wildlife and their habitat. See the *Areas of Critical Environmental Concern* section for ACEC decisions. See the *Special Status Species – Wildlife* section for greater sage-grouse management.
4042	BR: 7.2 BR: 8.2	To minimize impacts to wildlife from oil and gas development, consider implementing recommendations found in the WGFD document *Recommendations for Development of Oil and Gas Resources within Important Wildlife Habitats* (WGFD 2009) or the most current version available. To minimize impacts to wildlife from wind-energy development, consider implementing recommendations found in the WGFD document *Wildlife Protection Recommendations for Wind Energy Development in Wyoming* (WGFD 2010).
4043	BR: 7.1 BR: 8.2	To protect wildlife and their habitats, reduce the footprint of surface-disturbing activities and facilities to the smallest size necessary to achieve the purpose for the disturbance without raising safety issues.
4044	BR: 7.1 BR: 8.2	BLM-administered lands in Townships 40 and 41 North and 5,293 acres surrounding Rock Creek Mountain in Townships 32 and 33 North, Ranges 93 and 94 are closed to phosphate leasing to protect wildlife, cultural, and visual resources, and avoid conflict with the Westside Energy Corridor; see Map 13. Other types of surface disturbance, such as mineral material sales, will be authorized only in consideration of these values.
4045	BR: 7.1 BR: 8.2	To protect wildlife, viewshed, cultural resources, and other values, mineral management on 306,360 acres in the Hudson to Atlantic City area (including Twin Creek and Beaver Rim ACECs and a portion of the South Pass Historical Landscape ACEC [Map 46]) is as follows: ● Open to oil and gas leasing subject to NSO stipulation ● Closed to geophysical exploration ● Closed to solid mineral leasing ● Closed to new mineral material disposals ● Withdrawn from locatable mineral entry ○ Conduct validity exams as staffing allows ○ Evaluate opportunities, including working with partners, to relinquish valid claims beneficial to resource values ○ Encourage relinquishment of valid claims for offsite mitigation of surface disturbance in important wildlife habitat
4046	BR: 7.1 BR: 8.2	ROW management in the Hudson to Atlantic City area is avoided for major and minor ROWs.
4047	BR: 7.1 BR: 8.2	For consistent wildlife management and to protect the setting of historical and scenic resources, mineral management of the area south of Highway 28 to the north of Beaver Creek (the Beaver Creek Triangle) (3,371 acres) is as follows: ● Open to oil and gas leasing subject to NSO stipulation ● Closed to geophysical exploration ● Closed to solid mineral leasing
4048	BR: 7.1 BR: 8.2	ROW management in the Beaver Creek Triangle (3,371 acres) is excluded for major ROWs and avoided for minor ROWs.
FISH		
4049	BR: 7.5	Design, locate, and, where feasible, modify road crossings of streams to minimize impacts to fish populations and habitat.

4000 BIOLOGICAL RESOURCES (BR) – FISH AND WILDLIFE		
Record #	**Goal/Obj.**	**Decisions**
4050	BR: 7.6 BR: 9.1 BR: 9.2	Work cooperatively with stakeholders and local governments to develop and implement management strategies to prevent the introduction and spread of aquatic invasive species. See Wyoming Statutes sections 23-4-201 through 23-4-206 and any subsequent legislation.
4051	BR: 8.2	Avoid the movement of water from one 4th level hydrologic unit code drainage to another 4th level hydrologic unit code drainage to prevent aquatic invasive species and disease transfer.
4052	BR: 8.2	If equipment has been used in an area known to contain aquatic invasive species, the equipment will need to be inspected by an authorized aquatic invasive species inspector certified in the State of Wyoming prior to use in any water in the planning area. If aquatic invasive species are found, the equipment will need to be decontaminated in accordance with Wyoming Statutes.
4053	BR: 8.4	Apply timing limitations to surface-disturbing activities within water channels that will adversely affect spawning, egg incubation, and fry areas in fish-bearing streams (Map 17). Surface-disturbing activities are prohibited from March 15 to July 31 to protect fish that spawn in the spring and from September 15 to November 30 to protect fish that spawn in the fall. Dates may vary by species and location.
4054	BR: 8.4 BR: 9.3	Manage human-caused barriers to fish passage on a case-by-case basis. Remove barriers, build passages, or place barriers to protect conservation populations from hybridization or competition.
4055	BR: 7.5	On a case-by-case basis, authorize actions that deplete water from fish-bearing streams, unless the loss or reduction of a sustainable fish population would result. Existing projects that affect the sustainability of fish populations will be modified or removed on a case-by-case basis.
WILDLIFE		
4056	BR: 8.2	Outside of DDAs, wildlife seasonal protections for surface-disturbing and disruptive activities apply to maintenance and operations actions when the activity is determined to be detrimental to wildlife (see Appendix F (p. 233)). Reclamation of surface disturbance will be in accordance with Appendix B (p. 187) for non-DDAs.
4057	BR: 8.2	For the protection of reptiles and their habitat, prohibit surface-disturbing activities within 200 feet of identified hibernacula (den) sites.
4058	BR: 7.3	Approve new fences on a case-by-case basis and do not construct fences across identified big game migration corridors unless fencing is critical to the success of a comprehensive grazing strategy or to make significant progress toward meeting the Wyoming Standards for Healthy Rangelands, and adverse project impacts are mitigated. Consider opportunities to remove existing fences in migration corridors to manage for a no net gain of fences in migration corridors. Migration corridors that have been identified are shown on Map 23. Remove or modify existing fences to address habitat fragmentation and barriers to migration on a case-by-case basis. Type E fence will be required for any new or modified highway ROW fence except in those areas bordering domestic sheep allotments or in areas where another fence standard is preferable.
4059	BR: 7.4	On a case-by-case basis, close and reclaim redundant roads to reduce road density and habitat fragmentation in coordination with adjacent landowners and/or state and county governments.
4060	BR: 8.1	Manage wind-energy development on a case-by-case basis and in consideration of the resource values in big game crucial winter range, migration corridors, and parturition areas, raptor concentration areas, and other areas with wildlife values. Wind-energy management in greater sage-grouse Core Area is found in the *Special Status Species – Wildlife* section.
BIG GAME		
4061	BR: 7.2	Prohibit surface-disturbing and disruptive activities within identified big game crucial winter range (Maps 18-22) from November 15 to April 30 and within identified big game parturition areas (Maps 18-22) from May 1 to June 30 unless an exception, waiver, or modification is granted by the Authorized Officer. Authorize exceptions for reclamation seeding when appropriate.

4000 BIOLOGICAL RESOURCES (BR) – FISH AND WILDLIFE		
Record #	**Goal/Obj.**	**Decisions**
4062	BR: 8.2	Prohibit surface-disturbing and disruptive activities within identified elk winter range from November 15 to April 30 (Map 19). For the benefit of mule deer and their habitat, close the area in Townships 29 and 30 in Range 99 and all of Townships 40 and 41 to phosphate leasing (75,622 acres [Map 13]).
4063	BR: 7.1	Cooperate with the WGFD to recommend adjustments to herd objectives in light of habitat condition. Recommend wildlife use adjustments if monitoring data indicate that adjustments are necessary. Cooperate with WGFD to update and adjust seasonal range maps to incorporate new information/data.
4064	BR: 7.1	Manage bighorn sheep habitat within the Whiskey Mountain area in cooperation with the WGFD and the USFWS. See the Whiskey Mountain ACEC for additional management.
4065	BR: 7.1	Manage in accordance with the recommendations of the statewide Bighorn/Domestic Sheep Interaction Report and the 2012 Western Association of Fish and Wildlife Agencies Recommendations for Domestic Sheep and Goat Management in Wild Sheep Habitat (Wild Sheep Working Group 2012). Do not allow the use of domestic goats, llamas, etc., in bighorn sheep core native herd. Allow the use of domestic goats, llamas, etc., in the rest of the planning area where bighorn sheep are not present.
4066	BR: 7.6	Manage BLM-authorized activities so that the forage requirements of all grazing/browsing animals are met.
4067	BR: 7.1	On a case-by-case basis, manage vegetation in identified crucial winter range and parturition areas to benefit the identified species (Maps 18-22).
4068	BR: 8.2	Authorize livestock water development projects in big game crucial winter range and parturition areas (Maps 18-22) only if the project is critical to the success of a comprehensive grazing strategy and project impacts are mitigated.
4069	BR: 8.1 BR: 8.2	Avoid authorizing road development in big game crucial winter range and parturition areas.
4070	BR: 8.1 BR: 8.2	For the protection of wildlife and viewshed, 7,383 acres south of the Green Mountain ACEC, are managed with the same mineral and ROW prescriptions as the Green Mountain ACEC, except that no Plan of Operations is required for locatable mineral disturbances less than 5 acres (Maps 9 and 33).
RAPTORS		
4071	BR: 8.2	Prohibit surface-disturbing and disruptive activities within ¾ mile of active raptor nests, except ferruginous hawk nests for which surface-disturbing and disruptive activities are prohibited within 1 mile, during the following time periods: ● February 1 to July 31 for all raptors except northern goshawk and burrowing owl ● April 1 to August 31 for northern goshawk ● April 1 to September 15 for burrowing owl Distances and dates may vary based on raptor species, chick fledging, topography, and other pertinent factors. See Decision Record 4093 for management of bald eagle nests.

Table 2.15. 4000 BIOLOGICAL RESOURCES (BR) – SPECIAL STATUS SPECIES

4000 BIOLOGICAL RESOURCES (BR) – SPECIAL STATUS SPECIES		
Record #	**Goal/Obj.**	**Decisions**

Goal BR: 11 Manage for biological integrity and habitat function to facilitate the conservation, recovery, and maintenance of populations of fish, wildlife, and plant special status species.

Objectives:

BR: 11.1 Protect or enhance areas of ecological importance for special status species. Manage for no net loss of habitat for any special status species.

BR: 11.2 Conserve and recover special status species by determining and implementing strategies, restoration opportunities, use restrictions, and management actions.

BR: 11.3 Manage specific environmental hazards, risks, and impacts in a manner compatible with special status species health.

BR: 11.4 Identify habitat thresholds necessary to sustain well-distributed healthy populations of special status species to avoid future listings under the ESA.

BR: 11.5 Develop and implement habitat management plans and activity plans, or use other mechanisms to protect special status species deemed high-priority.

Goal BR: 12 Provide quality habitats to support the introduction, reintroduction, and augmentation of identified high priority fish, wildlife, and plant special status species.

Objective:

BR: 12.1 Identify opportunities in coordination with stakeholders to introduce or reintroduce special status species.

Goal BR: 13 Maintain and/or increase greater sage-grouse abundance and distribution by conserving, enhancing, or restoring the sagebrush ecosystem upon which populations depend, in cooperation with other conservation partners. Sustain the integrity of the sagebrush biome to provide the amount, continuity, and quality of habitat that is necessary to maintain sustainable populations of greater sage-grouse and other species by achieving the objectives below.

Objectives:

BR: 13.1 Maintain large patches of high-quality sagebrush habitats with emphasis on patches occupied by greater sage-grouse.

BR: 13.2 Maintain connections between sagebrush habitats, with emphasis on connections between habitats occupied by greater sage-grouse.

4000 BIOLOGICAL RESOURCES (BR) – SPECIAL STATUS SPECIES		
Record #	**Goal/Obj.**	**Decisions**
Goal BR: 14 Identify the amount of habitat that should undergo restoration and/or rehabilitation during the life of the plan, and initiate restoration and/or rehabilitation by achieving the objective below. **Objective:** **BR: 14.1** Restore and/or reconnect large patches of sagebrush habitat with emphasis on reconnecting patches occupied by stronghold and isolated populations of greater sage-grouse.		
GENERAL SPECIAL STATUS SPECIES		
N/A	N/A	Please refer to the *Fish and Wildlife* section for additional decisions affecting fish and wildlife Special Status Species.
4072	BR: 11.2	Develop and implement protective measures for federally listed species in coordination with the USFWS. For proposed actions in greater sage-grouse Core Areas, determine whether a categorical exclusion is applicable and if so, closely examine the extraordinary circumstances, if applicable, to determine whether one or more exists that would require preparation of a NEPA analysis. If a categorical exclusion applies, and no extraordinary circumstances exist, determine whether preparing a NEPA analysis would help inform decision making. Continue to take action in cooperation with the USFWS to facilitate the recovery of threatened and endangered plant species that occur on BLM-administered land.
4073	BR: 11.2 BR: 11.5	Upon designation of special status species, identify distribution, key habitat areas, and special management needs to be used in developing activity plans. Apply appropriate Required Design Features and BMPs as Conditions of Approval (such as those identified in Appendix E (p. 217)) to reduce adverse impacts to special status species.
4074	BR: 12.1	Coordinate with agencies, including state and local governments, in the restoration, reintroduction, augmentation, or reestablishment of threatened, endangered, and other special status species populations and/or habitats.
4075	BR: 11.2	Implement appropriate conservation agreements, conservation measures, and BLM-endorsed management strategies for threatened, endangered, and other special status species. Comply with terms of the Statewide Programmatic Section 7 Consultations (conservation measures from the letters of concurrence, biological assessments, and biological opinions) for management of threatened, endangered, proposed, and candidate species.
4076	BR: 11.2 BR: 11.5	Develop site-specific measures for BLM-authorized activities to protect threatened, endangered, and sensitive species. Reduce the footprint of development and facilities to the smallest practical to protect special status species and their habitat. Incorporate Required Design Features and BMPs such as those identified in Appendix E (p. 217) as Conditions of Approval as appropriate for authorized activities to address adverse impacts to special status species.
4077	BR: 11.2 BR: 11.4	Require seasonal restrictions or other identified mitigation as needed to minimize impacts to migratory birds and their habitats protected by the Migratory Bird Treaty Act.
4078	BR: 11.1 BR: 13.1 BR: 13.2 BR: 14.1	The Dubois area (Map 3) and Wyoming Governor's greater sage-grouse Core Area (Map 24) are priorities for management of special status fish and wildlife species and their habitats.
4079	BR: 11.2	On a case-by-case basis, require surveys for BLM sensitive species as part of authorizing actions. Require protective actions when appropriate.

4000 BIOLOGICAL RESOURCES (BR) – SPECIAL STATUS SPECIES		
Record #	**Goal/Obj.**	**Decisions**
4080	BR: 11.4 BR: 11.5 BR: 13.1 BR: 13.2 BR: 14.1	Establish limits of acceptable cumulative habitat loss, including habitat modification, fragmentation, and loss of function, for special status species on a case-by-case basis. Limits of habitat loss and fragmentation for greater sage-grouse in Core Area are addressed in Decision Record 4109.
SPECIAL STATUS PLANTS		
4081	BR: 11.3	Allow chemical vegetation treatments within identified sensitive plant populations so long as treatments will benefit the population.
4082	BR: 11.2	Apply specific measures to protect known special status plant populations from BLM-authorized activities and motorized travel on a case-by-case basis.
4083	BR: 11.2	On a case-by-case basis, require inventory of potential habitats for BLM sensitive plant species prior to authorizing an activity. If a sensitive species is present, apply appropriate protective measures where possible.
4084	BR: 11.2	Maintain the existing locatable mineral withdrawal for desert yellowhead critical habitat (Map 26). Recommend a mineral withdrawal extension prior to the expiration of the existing mineral withdrawal. Management in this area is as follows: ● Open to oil and gas, geothermal, and other fluid mineral leasing with a NSO stipulation ● Closed to phosphate leasing ● Closed to mineral material disposals ● Excluded to major ROWs ● Avoided for minor ROWs ● Closed to motorized and mechanized travel Prohibit surface-disturbing activities and apply an NSO stipulation to mineral leasing activities within the Cedar Rim population of desert yellowhead (85 acres) (Map 26).
4085	BR: 11.2	Provide information to fire personnel to prevent fire suppression vehicles from staging in and driving over special status species plant populations. Where possible, special status species plant populations will be avoided for suppression activities such as bulldozer lines, helipads, and camps. Fire suppression activities in desert yellowhead populations will be prohibited unless approval, in coordination with USFWS, is granted (Map 26).
4086	BR: 11.2	Authorize range improvement projects in BLM sensitive plant species habitat on a case-by-case basis. Site projects so as to protect populations from grazing impacts.
SPECIAL STATUS FISH		
4087	BR: 11.2	Avoid activities that contribute sediment to waterbodies that support Yellowstone cutthroat trout, burbot, and sauger unless determined that additional sediment will not harm species or adequate mitigations can be applied.
SPECIAL STATUS WILDLIFE		
4088	BR: 11.2	Prohibit surface-disturbing activities within 200 feet of occupied pygmy rabbit habitat.
4089	BR: 11.2	Require black-footed ferret surveys before authorizing surface-disturbing activities in prairie dog towns suitable as potential habitat for black-footed ferrets, unless cleared by the USFWS.
4090	BR: 11.2 BR: 11.5	If the grizzly bear is delisted, manage habitat in accordance with the recommendations of the Wyoming Grizzly Bear Management Plan.
4091	BR: 11.2	On a case-by-case basis, adjust livestock grazing season of use dates to avoid conflict with grizzly bears.
4092	BR: 11.2	Avoid surface-disturbing activities in occupied white-tailed prairie dog colonies where possible.

4000 BIOLOGICAL RESOURCES (BR) – SPECIAL STATUS SPECIES		
Record #	**Goal/Obj.**	**Decisions**
4093	BR: 11.2	Implement conservation measures, terms and conditions, appropriate BMPs, Required Design Features and reasonable and prudent measures within existing state programmatic biological opinions for the bald eagle. Surface-disturbing and disruptive activities are prohibited within 1 mile of a bald eagle nest from February 1 to August 15.
4094	BR: 11.2	To protect mountain plover habitat, including a ¼-mile buffer, prohibit surface-disturbing and disruptive activities from April 10 to July 10 unless surveys indicate the absence of breeding/nesting mountain plovers.
4095	BR: 11.2 BR: 11.3	Prohibit surface-disturbing and disruptive activities within ¼ mile of identified bat maternity roosts and hibernation areas that would adversely impact bats and their habitat.
4096	BR: 11.1	Manage travel corridors for threatened and endangered species and BLM sensitive species on a case-by-case basis (Map 25). (Note: Only Canada lynx analysis units have been identified to date.) Manage permitted activities within travel corridors to avoid adverse impacts to sensitive species.
4097	BR: 11.1	To protect the concentration of special status species and their habitats, mineral and ROW actions in the Dubois area not within a WSA or an ACEC are managed as follows: ● Closed to oil and gas leasing ● Closed to geophysical exploration ● Closed to phosphate leasing ● Open to locatable minerals ● Closed to mineral material disposals unless entirely contained within the 120 acres located in T41N, R107W, Sec. 1 N½SE¼ ● Excluded to major ROWs ● Avoided for minor ROWs
4098	BR: 13.1 BR: 13.2 BR: 14.1	Maintain sagebrush and understory diversity (relative to ecological site description) in seasonal greater sage-grouse and other sagebrush-obligate species habitats unless plant removal is necessary to achieve habitat management objectives. Vegetation treatments for greater sage-grouse would follow the "Wyoming Game and Fish Department Protocols for Treating Sagebrush to be Consistent with Wyoming Executive Order 2011-5; Greater Sage-Grouse Core Area Protection" (WGFD 2011) or the most current version or science available.
4099	BR: 11.2 BR: 11.3	To minimize adverse impacts to greater sage-grouse from allowable uses, utilize recommendations and guidance from the following sources: ● Grazing Influence, Management, and Objective Development in Wyoming's Greater Sage-Grouse Habitat-With Emphasis on Nesting and Early Brood Rearing ● Sage-Grouse Habitat Management Guidelines for Wyoming ● Studies in Avian Biology article "Ecology and Conservation of Greater Sage-Grouse: A Landscape Species and Its Habitats" ● Western Association of Fish and Wildlife Agencies Greater Sage-Grouse Conservation Strategy ● Conservation Objectives Team Report ● National Technical Team Report Utilize additional information as it becomes available.
4100	BR: 13.1 BR: 13.2 BR: 14.1	Maintain seeps, springs, wet meadows, and riparian vegetation in a functional and diverse condition for young greater sage-grouse and other species that depend on forbs and insects associated with these areas. Restore non-functioning riparian systems by repairing abnormally incised drainages to raise water tables and increase water storage and brood-rearing habitats within greater sage-grouse habitat.
4101	BR: 11.2	Discourage the use of broad-spectrum insecticides where insect control is required. Target pest control toward key problem areas and schedule applications to be the smallest amount effective in greater sage-grouse brood-rearing areas.

4000 BIOLOGICAL RESOURCES (BR) – SPECIAL STATUS SPECIES

Record #	Goal/Obj.	Decisions
4102	BR: 11.2 BR: 11.3	Establish forage utilization levels in greater sage-grouse nesting habitat to ensure adequate cover remains.
4103	BR: 11.2	Except as otherwise provided in this RMP, greater sage-grouse Core Area is open to oil and gas and geothermal leasing, subject to standard stipulations for the protection of greater sage-grouse and other resources as described elsewhere in this RMP.
4104	BR: 11.2	Prohibit surface-disturbing or surface occupancy on or within a 0.6-mile radius of the perimeter of occupied greater sage-grouse leks in Core Area and on or within a 0.25-mile radius of the perimeter of occupied greater sage-grouse leks outside Core Area (Map 24). In Core Area, keep any new roads or road upgrades 1.9 miles from the perimeter of the lek.
4105	BR: 11.2	Prohibit surface-disturbing and/or disruptive activities from March 15 to June 30 in Core Area. Outside of Core Area, prohibit surface-disturbing and/or disruptive activities from March 15 to June 30 within 2 miles of the perimeter of occupied leks (Map 24). Where credible data support different timeframes for these seasonal restrictions, dates may be expanded 14 days prior to or subsequent to the above dates.
4106	BR: 11.2	Consistent with the BLM's regulatory authority over locatable mineral exploration and development, prohibit surface disturbance or disruptive activities from notice-level activity under 43 CFR 3809.320 in Core Area during the period March 15 to June 30.
4107	BR: 11.2	Prohibit disruptive activities between 6 p.m. and 8 a.m. from March 1 to May 15 on or within a 0.6-mile radius of the perimeter of occupied greater sage-grouse leks in Core Area (Map 24).
4108	BR: 11.1	Prohibit surface-disturbing and disruptive activities in greater sage-grouse winter concentration areas, as they are identified, from December 1 to March 14 unless data indicate a date modification is necessary to better protect wintering greater sage-grouse.
4109	BR: 11.2	In greater sage-grouse Core Area, limit the density of disturbance of an activity (oil and gas or mining) to an average of one site per square mile (640 acres) within the DDCT. The one location and cumulative value of existing disturbances will not exceed 5 percent of suitable habitat of the DDCT area. Utilize the most current greater sage-grouse density disturbance process or other state and/or federal agreed-upon process for compliance evaluations.
4110	BR: 11 BR: 11.1-11.5	If in order to accommodate valid existing rights, the new disturbance for a ROW in greater sage-grouse Core Area coupled with existing disturbance would exceed 5 percent of suitable habitat within the DDCT area (see current guidance with respect to disturbance calculations), then additional effective mitigation is necessary to offset the resulting loss of greater sage-grouse habitat. Interim reclamation following construction of the ROW and final reclamation following the relinquishment of the ROW will ensure reestablishment of the predisturbance greater sage-grouse habitat, with the reclamation bond amount set in consideration of this reclamation obligation. These ROW authorizations will be subject to approval by the State Director.
4111	BR: 11.2 BR: 11.3 BR: 11.5	In Core Area, major overhead powerlines will not be authorized unless co-located with an existing 115 kilovolt or greater powerline, as close as technically feasible, not to exceed 0.5 miles or within a designated corridor authorized for overhead powerlines. Distribution lines may be authorized when effectively mitigated to protect greater sage-grouse and the Authorized Officer determines that overhead installation is the action alternative with the fewest adverse impacts. Agricultural and residential lines will be considered to be adequately mitigated for greater sage-grouse if constructed at least 0.6 mile from the lek perimeter with appropriate timing constraints and installation of raptor deterrents. These ROW authorizations will be subject to approval by the State Director.
4112	BR: 11.2 BR: 11.3 BR: 11.5	Until research on impacts of wind energy to greater sage-grouse is completed and adequate mitigation can be developed, exclude wind-energy development in Core Area.

4000 BIOLOGICAL RESOURCES (BR) – SPECIAL STATUS SPECIES		
Record #	**Goal/Obj.**	**Decisions**
4113	BR: 11.2	Allow livestock water development projects in greater sage-grouse nesting habitat. Consistent with the intent of greater sage-grouse Core Area management, such projects will only be allowed if they will contribute to improved greater sage-grouse habitat, developments can be designed to be compatible with greater sage-grouse, and they are part of a comprehensive grazing strategy.
4114	BR: 11 BR: 11.3 BR: 11.5 BR: 13	The BLM will collaborate with appropriate federal agencies and the State of Wyoming, as contemplated under the Wyoming Governor's Executive Order 2013-3, to: 1) develop appropriate conservation objectives; 2) define a framework for evaluating situations where greater sage-grouse conservation objectives are not being achieved on federal land, to determine if a significant causal relationship exists between improper grazing (by wildlife or wild horses or livestock) and greater sage-grouse conservation objectives; and 3) identify appropriate site-based actions to achieve greater sage-grouse conservation objectives within the framework.
4115	BR: 11.2 BR: 11.3	In cooperation with stakeholders, design and locate fences, so as not to disturb important greater sage-grouse habitat areas. When fences are authorized, require a design that has the fewest adverse impacts to greater sage-grouse, including features to reduce greater sage-grouse strikes and mortality. Require the installation of fence markers on wire fences constructed in greater sage-grouse habitat to increase fence visibility and reduce collision potential. Remove, modify, or mark fences with high-risk for collision.
4116	BR: 11.2	New permanent, high-profile structures within greater sage-grouse nesting habitat will be allowed on a case-by-case basis. Require the installation of anti-perching devices on appropriate structures to reduce predation opportunities.
4117	BR: 11.2	Limit noise sources to 10 decibels above ambient noise measured at the perimeter of occupied greater sage-grouse leks from March 1 to May 15, unless scientific findings indicate a different noise level is appropriate. In addition, limit noise sources in other important greater sage-grouse habitats if research and/or policy indicate the need.
4118	BR: 11.3	To minimize raptor use, require anti-perching devices on new overhead powerlines in greater sage-grouse Core Area. Require anti-perching devices on new overhead powerlines and wind energy meteorological towers in prairie dog, mountain plover, and pygmy rabbit habitats on a case-by-case basis. Work with ROW holders to install anti-perching devices on existing powerlines in these habitats.
4119	BR: 11.3	Allow above ground low voltage utility lines or require burying lines in greater sage-grouse, prairie dog, mountain plover, and pygmy rabbit habitats on a case-by-case basis. Evaluate and take advantage of opportunities such as the renewal of existing ROWs to remove or modify existing powerlines, prioritizing greater sage-grouse Core Area.
4120	BR: 11.2 BR: 13.1	In order to avoid surface-disturbing activities in Core Areas, priority will be given to development of oil and gas and other mineral resources outside of Core Areas, subject to applicable stipulations. When authorizing development of oil and gas and other mineral resources in core habitat, subject to applicable stipulations for the conservation of greater sage-grouse, priority will be given to development in non-habitat areas first and then in the least suitable habitat for greater sage-grouse.

Table 2.16. 4000 BIOLOGICAL RESOURCES (BR) – WILD HORSES

4000 BIOLOGICAL RESOURCES (BR) – WILD HORSES		
Record #	**Goal/Obj.**	**Decisions**
Goal BR: 15 Manage healthy wild horse herds within appropriate management levels that will maintain a thriving natural ecological balance between wild horse populations, wildlife, livestock, vegetation resources, and other resource values. **Objectives:** **BR: 15.1** Adjust and maintain wild horse numbers and HMAs to comply with federal policies and applicable agreements with the State of Wyoming, as applicable to the management situation. **BR: 15.2** Maintain or enhance herd viability, genetic integrity, and unique characteristics that distinguish individual herds. **BR: 15.3** Provide opportunities for viewing wild horses.		
4121	BR: 15.1 BR: 15.2	Conduct regular and periodic gathers when necessary to maintain a thriving natural ecological balance or when required by emergency to maintain the initial Appropriate Management Level ranges (number of horses) listed below. ● Antelope Hills/Cyclone Rim: 60-82 ● Conant Creek: 60-100 ● Crooks Mountain: 65-85 ● Dishpan Butte: 50-100 ● Green Mountain: 170-300 ● Muskrat Basin: 160-250 ● Rock Creek Mountain: 50-86
4122	BR: 15.1 BR: 15.2	Utilize chemical and other population control measures as needed to maintain Appropriate Management Level ranges.
4123	BR: 15.1	Gather wild horses outside the established Herd Management Areas during routine periodic gathers (Map 27). Prioritize gathers in greater sage-grouse Core Area unless removals are necessary in other areas to prevent serious environmental issues, including herd health impacts. Utilize Required Design Features and techniques such as those in Appendix L (p. 325), to promote genetic diversity and limit adverse impacts to wild horses from gathers.
4124	BR: 15.2	Employ selective removal criteria during periodic gathers to increase desired genotype and phenotype.
4125	BR: 15.1	Utilize monitoring and evaluation data to assess habitat and populations within Herd Management Areas.
4126	BR: 15.1	Conduct animal health monitoring.
4127	BR: 15.1	Manage the four North Lander Complex herds as one herd to promote good distribution and genetic mixing, but maintain separate horse Appropriate Management Levels in existing Herd Management Areas.
4128	BR: 15.1	Maintain sufficient year-round water sources to sustain wild horses. Evaluate all proposed range improvement projects to benefit wild horses for impacts to other resources and uses.
4129	BR: 15.1	Update the Herd Area Management Plan as needed to meet herd health objectives, including Appropriate Management Levels, and to address impacts to other resources. Consider forage competition and evaluate overall utilization levels by all grazing animals, and incorporate greater sage-grouse habitat management objectives.

4000 BIOLOGICAL RESOURCES (BR) – WILD HORSES		
Record #	**Goal/Obj.**	**Decisions**
4130	BR: 15.1	Manage wind-energy development within wild horse Herd Management Areas and adjacent lands so as not to preclude the ability to manage wild horses within the Herd Management Areas.
4131	BR: 15.3	Establish scenic loops for viewing wild horses in some or all of the following areas (Map 27): ● Antelope Hills to Cyclone Rim ● Green Mountain Herd Area ● Muskrat Basin to Dishpan Butte Limit road improvements to those necessary for public safety, keeping as small a footprint as possible. Encourage primitive recreation outfitters to add wild-horse viewing to their operations. Identify locations for web cams or electronic viewing opportunities, to expand opportunities to view wild horses from a distance. Partner with state and local tourism promoters to encourage wild-horse viewing.
4132	BR: 15.1 BR: 15.2	Consider impacts on herd health, including genetic diversity, when making management decisions regarding fencing. Remove or modify existing fences to allow free movements among herd populations as opportunities arise.

Table 2.17. 5000 HERITAGE RESOURCES (HR) – CULTURAL RESOURCES

<table>
<tr><th colspan="3">5000 HERITAGE RESOURCES (HR) – CULTURAL RESOURCES</th></tr>
<tr><th>Record #</th><th>Goal/Obj.</th><th>Decisions</th></tr>
<tr><td colspan="3">Goal HR: 1 Identify, preserve, and protect significant cultural resources and ensure that they are available for appropriate uses by present and future generations (FLPMA, Section 103(c), 201(a) and (c); National Historic Preservation Act, Section 110(a); Archeological Resources Protection Act, Section 14(a)).
Objectives:
HR: 1.1 Compile a record of known cultural resources in the Lander Field Office and assign those resources to appropriate uses. Manage each type of cultural resource according to their proper use allocation, and monitor those resources’ condition and use.
HR: 1.2 Maintain a representative sample of each cultural resource type for future generations.</td></tr>
<tr><td colspan="3">Goal HR: 2 Seek to reduce imminent threats and resolve potential conflicts from natural or human-caused deterioration, or potential conflict with other resource uses (FLPMA Section 103(c), National Historic Preservation Act 106, 110 (a)(2)) by ensuring that all authorizations for land use and resource use will comply with the National Historic Preservation Act Section 106.
Objectives:
HR: 2.1 Develop activity plans or project/site-specific treatment plans or other protective measures for significant cultural resources at risk from deterioration or adverse effects from other uses. Coordinate with other BLM programs to prevent potential conflicts before they are allowed to occur.
HR: 2.2 Consult with Native American tribal governments regarding proposed land uses having the potential to affect cultural resources identified as having tribal interests or concerns. Determine the types of resources of concern to various tribes, and take tribal views into consideration when making land use allocations or decisions.</td></tr>
<tr><td colspan="3">Goal HR: 3 Protect significant cultural resources while endeavoring to minimize economic and social impacts to private landowners and local communities.
Objectives:
HR: 3.1 Consult and coordinate with affected landowners and local communities when devising protection measures for cultural resources.
HR: 3.2 Consult and coordinate with affected landowners and local communities when devising recreational use plans for cultural resources.</td></tr>
</table>

5000 HERITAGE RESOURCES (HR) – CULTURAL RESOURCES		
Record #	**Goal/Obj.**	**Decisions**

Goal HR: 4 Maintain existing and establish new working relationships with Native American tribes for purposes of advancing the protection of cultural resources.

Objective:

HR: 4.1 Consult, as appropriate, with Native Americans to identify tribally-sensitive resources or places that may be present within the Lander Field Office. Safeguard all information considered by tribes to be confidential, and utilize the information to prevent conflicts with incompatible uses.

Goal HR: 5 Promote stewardship, conservation, and appreciation of cultural and paleontological resources.

Objectives:

HR: 5.1 Maintain and enhance programs that provide opportunities for scientific research of cultural and paleontological resources. Develop relationships and cooperative agreements with the University of Wyoming and other research institutions.

HR: 5.2 Provide opportunities for public education, interpretation, and scientific research of cultural and paleontological resources. Continue Project Archaeology teaching courses, and continue to conduct public presentations for schools, community organizations, and the public. Provide for appropriate interpretation of sites of high public interest. Provide selected cultural and paleontological resources for scientific research.

HR: 5.3 Preserve and stabilize significant cultural and paleontological resources, especially resources that face immediate threat, and/or historic structures in high public use areas.

HR: 5.4 Pursue establishment of site stewardship programs at vulnerable cultural sites such as the Castle Gardens Rock Art Site.

Goal HR: 6 Preserve and protect the historical remains and historical settings of the Oregon, Mormon Pioneer, California, and Pony Express NHTs. See the *Congressionally Designated Trails* section for decisions for these resources.

Goal HR: 7 Preserve and protect the historical remains and historical settings of intact portions of the Warm Springs Canyon Flume.

Objectives:

HR: 7.1 Coordinate with operations and other programs to stabilize and/or repair suitable portions of the Flume.

HR: 7.2 Establish appropriate management prescriptions to maintain or improve the historic and physical integrity of the Flume and its settings.

HR: 7.3 Ensure recreation use in the area near the Flume will be compatible with private landowner concerns and historical values.

5000 HERITAGE RESOURCES (HR) – CULTURAL RESOURCES

Record #	Goal/Obj.	Decisions

Goal HR: 8 Preserve and protect the historical remains and historical settings of the South Pass Historic Mining Area and associated sites, including Miner's Delight and South Pass City. See the *Areas of Critical Environmental Concern* section for decisions for these resources.

Goal HR: 9 Preserve and protect the historical remains and historical settings of other significant trails and roads, including intact portions of the Bridger Trail; the Rawlins-Fort Washakie, the Casper-Lander, the Green River to Fort Washakie, the Point of Rocks to South Pass, and the Birdseye Pass Stage Trails; and the Yellowstone/National Park to Park Highways (RHT&EHs).

Objectives:

HR: 9.1 Maintain and enhance the significant qualities of RHT&EHs segments and sites. Avoid adverse effects, as defined in the National Historic Preservation Act and the BLM/State Historic Preservation Office Wyoming State Protocol, upon intact RHT&EH segments, their settings, and associated sites.

HR: 9.2 Protect remnants, ruts, traces, graves, campsites, landmarks, artifacts, and other remains associated with the RHT&EHs.

Goal HR: 10 Preserve and protect the cultural remains and natural settings of the Cedar Ridge Traditional Cultural Property. Manage Cedar Ridge with the following objectives:

Objectives:

HR: 10.1 Protect and enhance the site's traditional cultural importance.

HR: 10.2 Prevent disturbance to the site.

HR: 10.3 Protect and enhance access to the site.

HR: 10.4 Protect archeologically significant properties such as stone alignments, cairns, effigies, and circles.

HR: 10.5 Protect artifacts and evidence of prehistoric activity.

<table>
<tr><th colspan="3">5000 HERITAGE RESOURCES (HR) – CULTURAL RESOURCES</th></tr>
<tr><th>Record #</th><th>Goal/Obj.</th><th>Decisions</th></tr>
<tr><td colspan="3">Goal HR: 11 Preserve and protect the prehistoric remains and natural settings of the Castle Gardens Rock Art Site. Manage Castle Gardens with the following objectives:

Objectives:

HR: 11.1 Establish appropriate management prescriptions to improve the integrity of this site. Utilize public and tribal input to redesign the constructed facilities to enhance the visitor’s experience. Utilize scientific expertise to repair damage to, reduce vandalism upon, and better preserve the prehistoric rock art.

HR 11.2 Decrease vandalism, cross-country use, and erosion through better interpretation, removal of existing graffiti where possible, and redesign of constructed facilities.

HR 11.3 Make recreation use compatible with cultural and scientific values. Redesign the constructed facilities to reduce erosion and damage to soils, vegetation, and buried cultural resources.

HR 11.4 Coordinate with recreation and other programs to improve interpretation of the site’s rock art (such as low-profile informational signs at selected locations within the site, incorporating new scientific information about the site). Improve public enjoyment and appreciation of the site through measures such as improved barriers, viewing areas, and paths to the rock art panels.

HR 11.5 Provide opportunities for appropriate scientific research at the site.

Goal HR: 12 Preserve and protect the cultural remains and natural settings of sacred, spiritual, and/or Traditional Cultural Properties.</td></tr>
<tr><td>5001</td><td>HR: 1</td><td>Identify representative samples of cultural resource types (prehistoric and historic) from prehistoric and historic periods.</td></tr>
<tr><td>5002</td><td>HR: 12</td><td>Protect and manage sacred, spiritual, and/or Traditional Cultural Properties as they are identified.</td></tr>
<tr><td>5003</td><td>HR: 4.1</td><td>Ensure that areas important to Native American communities are not transferred from federal ownership, physically modified, or affected by decisions in ways that restrict or deny access and/or use.</td></tr>
<tr><td>5004</td><td>HR: 4.1</td><td>Protect and manage sites that are eligible for or listed on the National Register of Historic Places (some of which are displayed on Map 28). Manage sites allocated for conservation, traditional use, or public use to avoid adverse effects; manage sites allocated for scientific or experimental use for their research potential. Protect and manage National Historic Landscapes, National Historic Trails, and National Natural Landmarks through management of non-compatible uses.</td></tr>
<tr><td>5005</td><td>HR: 4.1</td><td>Continue existing relationships and develop new relationships with Native American tribes in order to identify sites, areas, and resources important to them. Document and keep confidential important sites, areas, and resources, as appropriate. Incorporate the information into the planning system to identify conflicts in the earliest stages and to avoid conflicts whenever possible. Manage identified areas of tribal importance to minimize disturbance to them and to ensure continued access.</td></tr>
<tr><td>5006</td><td>HR: 1.1
HR: 2.1</td><td>Identify areas of significant prehistoric cultural resources that are at high risk from development, as data become available.</td></tr>
<tr><td>5007</td><td>HR: 2.2</td><td>Consult with tribes when specific projects may have the potential to adversely affect resources important to them. Consider tribal views when uses threaten these sites and protect tribally important sites, areas, and resources whenever possible.</td></tr>
</table>

5000 HERITAGE RESOURCES (HR) – CULTURAL RESOURCES		
Record #	**Goal/Obj.**	**Decisions**
5008	HR: 2.1 HR: 6	On a case-by-case basis for significant (see Glossary) cultural resources, implement appropriate viewshed protections, limit degradation, promote educational opportunities, and limit effects from development and BLM-authorized activities. Continue to preserve and stabilize significant sites known to be in danger of degradation or as new sites are brought to the attention of the BLM.
5009	HR: 5.1	Continue cooperative agreements with the University of Wyoming and Central Wyoming College to make mitigation and research projects more timely and cost-effective. Establish cooperative relationships with other partners to increase scientific research of cultural resources when opportunities arise.
5010	HR: 2.1	Allow BLM-authorized activities to proceed in accordance with RMP decisions and the current Wyoming State Protocol and National Historic Preservation Act regulations. For cultural resources that are significant because of their information potential, require avoidance whenever possible. If avoidance is not possible, require the recovery of scientific data if an activity would cause adverse effects. For cultural resources significant for reasons other than information potential, require avoidance whenever possible; if avoidance is not possible, require detailed documentation.
5011	HR: 1.1	Conduct inventories for cultural resources prior to all surface-disturbing activities, subject to appropriate exceptions as provided in the Wyoming State Protocol.
5012	HR: 12	Conduct travel planning in consideration of the values associated with sacred, spiritual, and/or Traditional Cultural Properties.
5013	HR: 3.1 HR: 3.2	In cooperation with local governments and stakeholders (including Fremont County entities such as the Museums Board and the Historic Preservation Board), consider the economic and social effects of protecting cultural resources. Coordinate with affected landowners, local communities, and agencies on any decisions that could affect their use or operations. Consistent with cultural resource protection goals and objectives, devise management actions that do not adversely affect the objectives of private landowners or local communities.
REGIONAL HISTORIC TRAILS AND EARLY HIGHWAYS (RHT&EHs)		
5014	HR: 9.1 HR: 9.2	The segments of the following RHT&EHs determined eligible for the National Register of Historic Places are managed to support National Register eligibility: ● Bridger Trail ● Casper to Lander Road ● Rawlins-Fort Washakie Stage Trail ● Green River to South Pass to Fort Washakie Stage Trail ● Birdseye Pass Stage Trail ● Point of Rocks to South Pass Stage Trail ● Yellowstone/National Park to Park Highway
5015	HR: 9.1-9.2	Manage RHT&EHs on a case-by-case basis in consideration of resource values and in accordance with the National Historic Preservation Act (Map 28).
5016	HR: 9.1 HR: 9.2	Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended, the National Programmatic Agreement and the Wyoming State Protocol, case-by-case reviews for specific undertakings require analysis and assessments of effects. Such analysis and assessment may reveal the need for additional restrictions beyond those specifically described in the RMP.
5017	HR: 9.1 HR: 9.2	Highly visible projects and/or projects in the setting of the EHT&EH out of scale with the surrounding environment for example, wind farms, gas plants, and power plants) are managed on a case-by-case basis.

5000 HERITAGE RESOURCES (HR) – CULTURAL RESOURCES		
Record #	**Goal/Obj.**	**Decisions**
5018	HR: 9.1 HR: 9.2	Inside DDAs, maintain and develop Memorandums of Agreement for RHT&EHs management. Where Memorandums of Agreement are not developed, mineral and realty actions are managed with the standard protocol and National Historic Preservation Act measures (Map 28). Outside of DDAs, protect the foreground of RHT&EHs up to 2 miles where setting is an important aspect of the integrity for the trail, and use BMPs (Appendix E (p. 217)) to avoid or mitigate adverse effects. Pursue site-specific protection plans or Memorandums of Agreement to protect the setting. Oil and gas in the area within 2 miles of RHT&EHs is open to leasing subject to CSU stipulations.
5019	HR: 1.1-1.2 HR: 2.1-2.2	Do not authorize commercial motorized travel or approve ROWs on RHT&EHs roads and trails.
5020	HR: 9.1-9.2	RHT&EHs and acquired lands added to RHT&EHs are open to livestock grazing.
5021	HR: 1.1-1.2 HR: 2.1-2.2	Range improvement projects and mineral supplementation and their associated impacts are subject to the following restrictions within 0.5 mile of the RHT&EHs (Map 28): Projects and their associated impacts are authorized on a case-by-case basis if the projects and their associated impacts are either hidden from the trails, are too far away to be seen, or are designed or camouflaged to cause no more than a weak contrast, as defined in the BLM Visual Resource Manual.
CEDAR RIDGE TRADITIONAL CULTURAL PROPERTY		
5022	HR: 10.1-10.5	Manage the Cedar Ridge Traditional Cultural Property (255 acres) and its periphery (3,284 acres) to protect its cultural and sacred resources.
5023	HR: 10.1-10.5	In conjunction with the Casper Field Office, develop a management and protection plan (including a site stewardship plan) for the Traditional Cultural Property and periphery.
5024	HR: 10.1-10.5	Mineral development in the Traditional Cultural Property is managed as follows: ● Open to oil and gas leasing subject to NSO stipulations ● Closed to geophysical exploration ● Closed to solid minerals leasing ● Recommend for withdrawal to locatable mineral entry ● Closed to mineral material disposal
5025	HR 10.1	Mineral development in the periphery is managed as follows: ● Open to oil and gas leasing subject to CSU stipulations ● Open to geophysical exploration subject to CSU stipulations ● Open to solid minerals leasing for 5 acres or less, subject to limits on surface use comparable to the CSU for oil and gas ● Open to locatable mineral entry ● Open to mineral material disposals subject to limits on locations similar to a CSU stipulation for oil and gas
5026	HR: 10.1-10.5	Manage the Cedar Ridge Traditional Cultural Property as VRM Class II. Manage the periphery area as VRM Class III.

5000 HERITAGE RESOURCES (HR) – CULTURAL RESOURCES		
Record #	**Goal/Obj.**	**Decisions**
5027	HR: 10.1-10.5	ROW management in the Traditional Cultural Property is: ● Excluded to major ROWs ● Avoided for minor ROWs ROW management in the periphery is: ● Avoided for major ROWs ● Avoided for minor ROWs
5028	HR: 10.1-10.5	Route densities and locations in the Cedar Ridge Traditional Cultural Property is managed to support Traditional Cultural Property objectives. (See the *Comprehensive Trails and Travel Management* section for additional detail.)
5029	HR: 10.1-10.5	The area is open to livestock grazing and managed to meet the goals and objectives for the Traditional Cultural Property.
5030	HR: 10.1-10.5	Do not authorize new range improvement projects or mineral supplementation in the Traditional Cultural Property. Authorize range improvement projects and the location of mineral supplementation in the periphery only if consistent with the values of the Traditional Cultural Property and its setting.
5031	HR: 10.1-10.5	Management of BLM-acquired lands in the Traditional Cultural Property will be to support the values of the Traditional Cultural Property and its setting.
CASTLE GARDENS		
5032	HR: 11	Manage BLM-administered lands immediately around the Castle Gardens site as a cultural/recreational site (78 acres). Manage approximately 1,656 acres around the periphery of the site to support cultural values (see Map 28). (The periphery area includes the three BLM sections to the northwest, northeast, and southeast of Castle Gardens minus any private lands in these sections).
5033	HR: 11.1	Develop and implement a new protection and management plan, including redesigning the site, implementing a stewardship program, and continuing the research program.
5034	HR: 11.1 HR: 11.2 HR: 11.4	Mineral development in the 78-acre area is managed with the following restrictions: ● Open to oil and gas leasing subject to NSO stipulations ● Closed to geophysical exploration ● Closed to solid mineral leasing ● Withdrawn from locatable mineral entry in pre-FLPMA actions ● Closed to mineral material disposal
5035	HR: 11.1 HR: 11.2 HR: 11.4	Mineral development in the periphery area is managed with the following restrictions: ● Open to oil and gas leasing subject to NSO stipulations ● Closed to geophysical exploration ● Closed to solid mineral leasing ● Open to locatable mineral entry ● Closed to mineral material disposal
5036	HR: 11	Manage the Castle Gardens site and periphery as VRM Class II.

5000 HERITAGE RESOURCES (HR) – CULTURAL RESOURCES		
Record #	**Goal/Obj.**	**Decisions**
5037	HR: 11.1 HR: 11.2 HR: 11.4	ROW management of the 78-acre site is: ● Excluded to major ROWs ● Excluded to minor ROWs
5038	HR: 11.1 HR: 11.2 HR: 11.4	ROW management in the periphery is: ● Excluded to major ROWs ● Avoided for minor ROWs
5039	HR: 11.1-11.4	Route densities and locations in the Castle Gardens area are managed to support cultural site objectives. (See the *Comprehensive Trails and Travel Management* section for additional detail.)
5040	HR: 11.1	The 78-acre area is closed to livestock grazing and managed to meet the goals and objectives for the Castle Gardens Site. The periphery is open to livestock grazing.
5041	HR: 11.1 HR: 11.4	Authorize range improvement projects in the periphery only when compatible with the area's cultural values.
5042	HR: 11.1 HR: 11.4	Management of BLM-acquired lands in the periphery will be to support the area's cultural values.
WARM SPRINGS CANYON FLUME, NATURAL BRIDGE, AND GEYSER		
5043	HR: 7.1-7.3	Manage the Warm Springs Canyon Flume site (557 acres) and the 277-acre area around it (Map 28) to protect and stabilize the area so that its status as a National Register-eligible property is not compromised (834 total acres).
5044	HR: 7.2	Develop a cultural resource management plan for the Flume, including stabilization of selected segments of the Flume. Manage the Flume and surroundings in cooperation with the U.S. Forest Service and nearby landowners to better preserve the property.
5045	HR: 7.2 HR: 7.3	Mineral development in the 834-acre Warm Springs Canyon Flume area is managed as follows in accordance with Dubois area-wide management. The 557-acre Flume site is withdrawn from locatable minerals in a pre-FLPMA withdrawal; the 277-acre area around it is open to locatable mineral entry.
5046	HR: 7.2	The 834-acre Warm Springs Canyon Flume area is excluded for major and minor ROWs.
5047	HR: 7.2	Limit motorized travel to existing roads and trails.
5048	HR: 7.2	The Flume area is open to livestock grazing but managed to avoid damage to the Flume.
OTHER SACRED, SPIRITUAL, and/or TRADITIONAL CULTURAL PROPERTIES		
5049	HR: 1 HR: 7	Develop cultural resource management plans for each property as time and funding permit.

5000 HERITAGE RESOURCES (HR) – CULTURAL RESOURCES		
Record #	**Goal/Obj.**	**Decisions**
5050	HR: 12	Mineral development in the established protection zones around the following sites: 48FR301 (2,940 acres), 48FR311 (555 acres), 48FR3997 (1,045 acres), 48FR4070 (3,378 acres), 48FR4489 (930 acres), 48FR773 (588 acres), 48FR6125 (770 acres), (10,206 total acres) 48FR7195 (acres to be determined) and new sites as they are identified and then verified by tribes and the BLM (collectively referred to as the Sites in this section), are managed with the following restrictions: ● Open to oil and gas leasing subject to NSO stipulations ● Closed to geophysical exploration ● Closed to solid mineral leasing ● Open to locatable minerals ● Closed to salable minerals
5051	HR: 12	ROW management in the Sites is excluded to major ROWs and avoided for minor ROWs.
5052	HR: 12	The Sites are available for livestock grazing, but prohibit new range improvement projects within the Site protection zones unless these projects are designed to protect the Sites. Consult with grazing permittees on extent of Site protection areas.

Table 2.18. 5000 HERITAGE RESOURCES (HR) – PALEONTOLOGICAL RESOURCES

5000 HERITAGE RESOURCES (HR) – PALEONTOLOGICAL RESOURCES		
Record #	**Goal/Obj.**	**Decisions**
Goal HR: 13 Locate, evaluate, manage, and protect, where appropriate, paleontological resources on BLM-administered lands. **Objectives:** **HR: 13.1** Compile a record of known paleontological resources in the Lander Field Office and monitor those resources' condition and use. **HR: 13.2** Maintain a representative sample of each paleontological resource type for future generations.		
Goal HR: 14 Facilitate the appropriate scientific, educational, and recreational uses of paleontological resources, such as research and interpretation. **Objectives:** **HR: 14.1** Develop management recommendations to promote the scientific, educational, and recreational uses of paleontological resources. **HR: 14.2** Continue to work closely with paleontological researchers who carry permits to scientifically survey, collect, and excavate fossil resources on BLM-administered lands.		
Goal HR: 15 Ensure that proposed land uses initiated or authorized by the BLM do not inadvertently damage or destroy important paleontological resources on BLM-administered lands. **Objectives:** **HR: 15.1** Utilize the BLM potential fossil yield classification system to assess possible resource impacts and mitigation needs for federal actions. **HR: 15.2** Require surveys, monitoring, and excavation where appropriate to identify and protect important paleontological resources from surface-disturbing activities.		

<table>
<tr><th colspan="3">5000 HERITAGE RESOURCES (HR) – PALEONTOLOGICAL RESOURCES</th></tr>
<tr><th>Record #</th><th>Goal/Obj.</th><th>Decisions</th></tr>
<tr><td colspan="3">Goal HR: 16 Foster public awareness and appreciation of our nation’s rich paleontological heritage.
Objectives:
HR: 16.1 Maintain and enhance programs that provide opportunities for scientific research of paleontological resources. Develop relationships and cooperative agreements with the University of Wyoming and other research institutions.
HR: 16.2 Provide opportunities for public education, interpretation, and scientific research of paleontological resources. Provide for appropriate interpretation of sites with high public interest. Provide selected paleontological resources for scientific research.
HR: 16.3 Preserve and stabilize significant paleontological resources, especially resources that face immediate threat, and/or paleontological localities in high public use areas.</td></tr>
<tr><td>5053</td><td>HR: 13.2
HR: 15.1
HR: 15.2
HR: 16.1
HR: 16.3</td><td>Protect significant paleontological resources from natural degradation and from non-project human-caused damage. Protect significant fossil localities suffering from natural weathering and erosion through collection efforts. Continue to protect significant localities suffering from vandalism through physical and administrative measures.</td></tr>
<tr><td>5054</td><td>HR: 13.2
HR: 15.1
HR: 15.2
HR: 16.1
HR: 16.3</td><td>Allow standard development and BLM-authorized activities to proceed in accordance with resource protections identified in regulations and guidelines and in accordance with standard paleontological stipulations.
For significant paleontological resources, require the recovery of scientific data if an activity would cause adverse effects. As resources such as dinosaur tracks are identified that would be useful for public interpretation, pursue funding to allow visitation and interpretation.</td></tr>
<tr><td>5055</td><td>HR: 16.1-16.3</td><td>On a case-by-case basis for significant paleontological resources, limit degradation, promote educational opportunities, and limit impacts from development. Continue to preserve and stabilize significant fossil localities known to be in danger of degradation or as brought to the attention of the BLM. Conduct inventories in areas where significant paleontological resources are known to be threatened by development or to be in danger of degradation. Identify and prioritize endangered locations and apply the following management:
● Significant localities threatened by development: implement protections based on level of threat and importance of resource; prohibit development where needed
● Significant localities with educational potential: work cooperatively to protect these areas from degradation; develop and improve educational values of these localities
● Significant localities threatened with natural deterioration: pursue funding for conservation of paleontological localities, work in cooperation with interested partners</td></tr>
<tr><td>5056</td><td>HR: 13.1
HR: 15.1
HR: 15.2</td><td>When disturbing formations considered to have “very high” and “high” potential fossil yield classification, and as needed in “moderate” potential fossil yield classification areas, survey and/or monitor for the discovery of significant paleontological resources. Protect paleontological resources considered to be significant (vertebrate fossils and invertebrate or plant fossils considered scientifically important by professional paleontologists) from the effects of development projects. Protection also includes data recovery through scientific collection or excavation, and/or protection/stabilization. Develop special management plans for areas of unusual or concentrated significant paleontological resources.</td></tr>
</table>

5000 HERITAGE RESOURCES (HR) – PALEONTOLOGICAL RESOURCES

Record #	Goal/Obj.	Decisions
5057	HR: 14.2 HR: 16.3	Continue cooperative relationships with the University of Wyoming and other institutions to make mitigation and research projects more feasible. Establish cooperative relationships with other partners to increase scientific research of paleontological resources where opportunities arise.
5058	HR: 13.1 HR: 15.1 HR: 15.2	Mineral management in areas with “very high” or “high” potential fossil yield classification (Map 29) is as follows (unless other, more restrictive management would apply, such as an ACEC designation): ● Open to oil and gas subject to CSU stipulations ● Open to geophysical exploration ● Open to geothermal ● Open to solid mineral leasing ● Open to locatable minerals ● Open to mineral material disposals with restrictions on location
5059	HR: 13.1 HR: 15.1-15.2	ROW management in areas with “very high” or “high” potential fossil yield classification (Map 29) is open to major and minor ROWs subject to the protection of significant paleontological resources (i.e., recordation and collection of scientific information, or preservation of highly unique resources) as required by stipulations or conditions of approval attached to the authorization.
5060	HR: 14.1 HR: 15.2 HR: 16.2-16.3	In the Beaver Rim proposed National Natural Landmark (1,120 acres within the Beaver Rim ACEC; Map 29), complete a paleontological reconnaissance of the area and develop a management plan to preserve and protect significant paleontological resources.
5061	HR: 14.1	In the Bison Basin high potential fossil area (1,280 acres; Map 29), continue inventory and monitoring the effects associated with surface-disturbing activities in areas with “very high” and “high” potential fossil yield classification to manage fossil resources. Complete a paleontological reconnaissance of the area and develop a management plan to preserve and protect significant paleontological resources.
5062	HR: 15.1 HR: 16.3	In the Bonneville to Lost Cabin high potential fossil area (Map 29), continue inventory and monitoring the effects of surface-disturbing activities in areas with “very high” and “high” potential fossil yield classification to manage and protect significant paleontological resources.
5063	HR: 15.1 HR: 16.3	Continue current management of the Lander Slope ACEC (see *Areas of Critical Environmental Concern* section for management of the Lander Slope), which will help protect the area’s fossil resources. Complete a paleontological reconnaissance of the area and develop a management plan to preserve and protect significant paleontological resources.
5064	HR: 15.1 HR: 16.3	In the Gas Hills high potential fossil area, continue inventory and monitoring the effects associated with surface-disturbing activities in areas with “very high” and “high” potential fossil yield classification to manage fossil resources. Complete a paleontological reconnaissance of the area and develop a management plan to preserve and protect significant paleontological resources.

Table 2.19. 5000 HERITAGE RESOURCES (HR) – VISUAL RESOURCES

<table>
<tr><th colspan="3">5000 HERITAGE RESOURCES (HR) – VISUAL RESOURCES</th></tr>
<tr><th>Record #</th><th>Goal/Obj.</th><th>Decisions</th></tr>
<tr><td colspan="3">Goal HR: 17 Maintain the overall scenic (visual) quality of BLM-administered lands.

Objectives:

HR: 17.1 VRM Class I Objective: Preserve the existing character of the landscape. Provide for natural ecological changes; however, preserving the landscape will not preclude very limited management activity. The level of change to the characteristic landscape will be very low and will not attract attention.

HR: 17.2 VRM Class II Objective: Retain the existing character of the landscape. The level of change to the characteristic landscape will be low. Management activities may be seen but will not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

HR: 17.3 VRM Class III Objective: Partially retain the existing character of the landscape. The level of change to the characteristic landscape will be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes will repeat the basic elements found in the predominant natural features of the characteristic landscape.

HR: 17.4 VRM Class IV Objective: Provide for management activities which require major modification to the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt will be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements found in the predominant natural features of the characteristic landscape.</td></tr>
<tr><td>N/A</td><td>N/A</td><td>Decisions associated with Scenic ACECs, NHTs, and Scenic Trails are contained within the <i>Special Designations</i> section.</td></tr>
<tr><td>5065</td><td>HR: 17.1</td><td>Manage WSAs as VRM Class I (Map 30).</td></tr>
<tr><td>5066</td><td>HR: 17.1
HR: 17.2</td><td>Prohibit surface-disturbing activities within important scenic areas (VRM Classes I and II). Grant exceptions if it can be demonstrated through a visual simulation and contrast rating worksheet (from all key observation points within the area) that the project or identified mitigation will meet or exceed VRM Class I or II objectives. This restriction does not apply to temporary structures such as drilling rigs.</td></tr>
<tr><td>5067</td><td>HR: 17.1
HR: 17.2</td><td>Work with private landowners and partners to pursue conservation easements on lands adjacent to areas managed as VRM Class I and II visual resources.</td></tr>
<tr><td>5068</td><td>HR: 17.1-17.4</td><td>BLM lands are managed to allow for resource development while also protecting important scenic features. Visual resource management is as follows:
● VRM Class I: 60,115 acres
● VRM Class II: 786,683 acres
● VRM Class III: 852,106 acres
● VRM Class IV: 694,759 acres</td></tr>
</table>

5000 HERITAGE RESOURCES (HR) – VISUAL RESOURCES		
Record #	**Goal/Obj.**	**Decisions**
5069	HR: 17.1 HR: 17.2	Surface-disturbing activities within VRM Classes III and IV that cannot be seen from the Congressionally Designated Trails will be evaluated based on the VRM class designation at the site of the surface disturbance. Surface-disturbing activities out of scale with the surrounding landscape that are within view of the Congressionally Designated Trails will be evaluated based on VRM Class II standards. To protect visual resource values, areas south of the Green Mountain ACEC are closed to wind-energy development (Map 32).
5070	HR: 17.1-17.3	All proposed actions within areas managed as VRM Class I, II, and III visual resources require a VRM contrast rating worksheet. On a case-by-case basis, determine if the project applicant would be required to utilize a visual simulation to test or show mitigation measures.

Table 2.20. 6000 LAND RESOURCES (LR) – LANDS AND REALTY

6000 LAND RESOURCES (LR) – LANDS AND REALTY		
Record #	**Goal/Obj.**	**Decisions**
Goal LR: 1 Manage the acquisition, disposal, withdrawal, and use of BLM-administered lands to respond to land tenure needs and to preserve important resource values. **Objectives**: **LR: 1.1** Develop and maintain a land-ownership pattern that will provide access for managing and protecting BLM-administered lands. **LR: 1.2** Use appropriate actions such as disposal and acquisition to resolve issues related to intermixed land-ownership patterns. **LR: 1.3** Maintain availability of BLM-administered lands to meet habitation, cultivation, trade, mineral development, recreation, and manufacturing needs of the community. Improve access to BLM-administered lands. **LR: 1.4** Withdraw BLM-administered lands to meet resource protection needs. **LR: 1.5** Identify areas for Recreation and Public Purposes Act actions.		
6001	LR: 1.1 LR: 1.2	Respond to specific proposals for land use authorizations on a case-by-case basis. Do not classify, open, or make available any BLM-administered lands for agricultural leasing or agricultural entry under either Desert Land Entry or Indian Allotment for one or more of the following reasons: unsuitable topography, presence of sensitive resources or resource conflicts, lack of water or access, small parcel size, or unsuitable soils.
6002	LR: 1.2	Identify lands for acquisition through exchange and/or purchase with a priority on meeting special management objectives such as greater sage-grouse Core Area, ACECs, and National Landscape Conservation System lands. Prioritize lands for acquisition that do not have split-estate unless in Core Area where greater sage-grouse management objectives would benefit greater sage-grouse conservation.
6003	LR: 1.3	Continue to administer lands leased under the Recreation and Public Purposes Act. Respond to requests for additional Recreation and Public Purposes Act leases.
6004	LR: 1.2	Lands identified for disposal or disposal with restrictions in accordance with Sections 203, 206, and 209 of FLPMA are listed in Appendix K (p. 309). The disposal or disposal with restrictions will require subsequent NEPA analysis of the specific disposal.
6005	LR: 1.1	No parcels within a National Landscape Conservation System unit, including the National Trails Management Corridor or an ACEC, or in greater sage-grouse Core Area, are identified for disposal unless the disposal would benefit the goals and objectives of the area's priority values or other important resource values. Acquire lands in areas with mixed ownership and where land exchanges would result in additional or more contiguous federal ownership patterns or would improve management for the benefit of priority resources as identified in other decisions such as ACECs.
RETENTION OF BLM-ADMINISTERED LANDS		
6006	LR: 1.1 LR: 1.2	Retain approximately 2,365,658 acres of BLM-administered land.
DISPOSAL OF BLM-ADMINISTERED LANDS		
6007	LR: 1.1 LR: 1.2	7,664 acres of BLM-administered land are available for disposal (Map 31).

6000 LAND RESOURCES (LR) – LANDS AND REALTY		
Record #	**Goal/Obj.**	**Decisions**
6008	LR: 1.1 LR: 1.2	25,326 acres of BLM-administered land are available for disposal with restrictions (Map 31), including offsite compensation or mitigation or the establishment of a conservation easement.
BLM WITHDRAWALS		
6009	LR: 1.4	Recommend withdrawals on 467,065 acres (Map 9) in accordance with other decisions (for example, Decision Record 7059 in the *Special Designation* section). Renew existing withdrawals before they expire. 8,634 acres are withdrawn in pre-FLPMA actions.

Table 2.21. 6000 LAND RESOURCES (LR) – RENEWABLE ENERGY

6000 LAND RESOURCES (LR) – RENEWABLE ENERGY		
Record #	**Goal/Obj.**	**Decisions**
Goal LR: 2 Provide opportunities for developing renewable energy resources. **Objective**: **LR: 2.1** Identify areas suitable for locating renewable energy developments where important cultural and natural resource values will not be adversely affected by these facilities.		
INDUSTRIAL WIND-ENERGY DEVELOPMENT		
6010	LR: 2.1	Manage 449,032 acres as open to wind-energy development (Map 32). Manage 309 acres as wind-energy development avoidance areas (Map 32). See Appendix C (p. 193) for avoidance criteria. Manage 1,944,869 acres as wind-energy development exclusion areas (Map 32).
6011	LR: 2	Management prescriptions for wind-energy development in important wildlife habitat, areas managed as VRM Classes I and II, RMZs, areas with cultural resources, and special designations are found in those respective sections.
6012	LR: 2	Implement the programmatic policies and BMPs for wind-energy development as identified in the ROD for Wind-Energy Development on Bureau of Land Management-Administered Land in the Western States (BLM 2005b) and Instruction Memorandum 2009-043 or subsequent guidance as part of any wind-energy authorization.
6013	LR: 2	Initiate government-to-government consultation with the appropriate tribal governments if it is determined that wind-energy development proposals might directly and substantially affect tribes.
NON-WIND RENEWABLE ENERGY		
6014	LR: 2	Consider non-wind renewable energy development on a case-by-case basis consistent with management and objectives identified in the RMP. Approval of non-wind renewable energy development inconsistent with management and objectives in the RMP would require a Land Use Plan amendment.
6015	LR: 2	Programmatic policies, BMPs, leasing procedures, and stipulations identified in the ROD for the Programmatic EIS for Geothermal Leasing in the Western United States (BLM and Forest Service 2008) are analyzed in the *Minerals* section.

Table 2.22. 6000 LAND RESOURCES (LR) – RIGHTS-OF-WAY AND CORRIDORS

6000 LAND RESOURCES (LR) – RIGHTS-OF-WAY AND CORRIDORS		
Record #	**Goal/Obj.**	**Decisions**
Goal LR: 3 Manage BLM-administered lands to meet transportation and ROW needs. **Objectives:** **LR: 3.1** Provide opportunities to meet the needs of ROW customers. **LR: 3.2** Support the availability of ROWs consistent with federal policies regarding the development of renewable energy sources.		
6016	LR: 3	Manage 1,282,773 acres as ROW avoidance areas (Map 33). See Appendix C (p. 193) for avoidance criteria. Manage 567,476 acres as ROW exclusion areas (Map 33). Manage 543,961 acres as open to ROW (Map 33).
6017	LR: 3	The Beef Gap section of the Sweetwater Rocks Complex (the gap between the Split Rock and the Miller Springs WSAs [Map 44]) is closed to any new ROWs even if co-located with existing ROWs.
6018	LR: 3.1 LR: 3.2	Energy Corridor 79-216 is a designated corridor (Map 34).

6000 LAND RESOURCES (LR) – RIGHTS-OF-WAY AND CORRIDORS

Record #	Goal/Obj.	Decisions
6019	LR: 3.1	The following are designated corridors for major ROW development (Map 34) open for above and/or below ground ROWs as indicated. The location of the designated corridors as represented on the map is approximate and subject to verification based on existing disturbance, particularly in the Sand Draw to Casper corridor through the Gas Hills mining district and the Lost Creek corridor north and south of Jeffrey City. The corridor widths displayed on Map 34 are overstated to improve clarity. The specific location of the designated corridors is based on the existing ROW. The Lost Creek Corridor, for example, is the area adjacent to the Lost Creek pipeline. These locations are subject to on-the-ground verification which will be reflected on updated iterations of Map 34. ● Jim Bridger (containing the Spence-Mustang-Jim Bridger existing 230 kV powerline) from where it enters the Lander planning area in Township 25 North, Range 94 West to where it intersects with the Lost Creek pipeline: above and below ground ● Lost Creek: variously below ground only and above and below ground as follows: ○ Lost Creek 1: from where the pipeline enters the Lander planning area in the south in Township 25 North, Range 93 West to where the pipeline meets the existing 230 kV powerline in the Jim Bridger corridor: below ground only ○ Lost Creek 2: from the Jim Bridger meeting point northward until the Lost Creek pipeline meets the Sand Draw to Casper designated corridor: above and below ground. The section of the corridor through the Jeffrey City area that is not within the National Trails Management Corridor is open to oil and gas leasing subject to CSU stipulations ○ Lost Creek 3: from the Sand Draw to Casper meeting point north to Highway 20/26: below ground only ○ Lost Creek 4: from north of Highway 20/26 to the Westwide Corridor: above and below ground ● Pathfinder: below ground only. (The Pathfinder corridor is only in the Lander planning area in Township 30 North, Range 85 West.) ● Sand Draw to Casper: above and below ground ● Highway 20/26: above and below ground ● Beaver Creek (formerly called Beaver Creek North and Lost Creek Spur): below ground only ● Shoshoni/Badwater: below ground ● Bairoil: below ground only ● Sand Draw: below ground only ● Bison Basin: below ground only ● Frontier going southwest from the Bairoil corridor to where it leaves the Lander planning area: below ground only ● Rattlesnake Hills (formerly called Frontier-Anadarko) north of Black Rock: below ground ● Black Rock (formerly called Pacificorp): above and below ground ● Pacificorp (going east-west in Township 35): above and below ground Widths for these corridors are 0.5 mile unless there are resource conflicts, then the construction ROW width will be adjusted accordingly. Within these corridors, new facilities will be constructed adjacent to existing linear facilities and overlapping existing ROWs where feasible, recognizing the need for adequate separation for operating system integrity, safety (construction and operation), appropriate local, state, and federal policies, regulations and laws, and land-use constraints. Designated corridors are subject to the prescriptions for resource protections except that they are open for ROWs even if the surrounding areas are excluded or avoided. Management prescriptions for ROWs are found in other resource areas such as Special Designations.
6020	LR: 3.1	The preferred location for new ROWs and access route authorizations is in areas already disturbed by existing ROWs. See Appendix E (p. 217) for design constraints to limit surface disturbance associated with new ROWs. Identify opportunities to reclaim duplicative ROWs or those no longer in use.
6021	LR: 3.1	Utilize the most current greater sage-grouse density disturbance process or other state/federal agreed-upon process for compliance evaluations.

6000 LAND RESOURCES (LR) – RIGHTS-OF-WAY AND CORRIDORS		
Record #	**Goal/Obj.**	**Decisions**
6022	LR 3.1	Locate linear ROWs such as fiber optic and low-voltage powerline corridors along currently established road systems (for example, state highways and county roads).
6023	PR: 3.3 BR: 1.1 BR: 11.1 BR: 11.2	Major ROWs will not be authorized outside of designated corridors unless the proponent establishes that the siting in a designated corridor is not possible. Additional expense does not, by itself, render the location within a designated corridor “not possible.” Additional management prescriptions are found in the other sections including *Special Designations*, *Wildlife*, and the *National Trails Management Corridor*. Minor ROWs outside of designated corridors are co-located in existing disturbance unless the proponent establishes that co-location is not possible or that the new location minimizes adverse impacts to other resources compared to co-location.
6024	LR: 3.1	Lands that are available to oil and gas leasing are available to carbon dioxide sequestration and research subject to the same surface limitations as would be applied to oil and gas operations. Lands that are closed to oil and gas leasing are excluded for carbon dioxide sequestration and research.
6025	LR: 3.1	Require new communication facilities be co-located with the following existing sites unless the proponent demonstrates existing sites are unable to meet the public needs and the project is consistent with the Land Use Plan (Map 34): ● Atlantic City ● Cedar Rim ● Crooks Mountain ● Gun Barrel ● Horse Heaven ● Muskrat The site on Whiskey Peak is limited to facilities that will be contained within the existing building footprint. The following sites are closed to new communication facilities, and existing facilities are allowed to expire at the end of the existing ROW grant (Map 34): ● BLM Ridge ● Black Rock

Table 2.23. 6000 LAND RESOURCES (LR) – COMPREHENSIVE TRAILS AND TRAVEL MANAGEMENT

6000 LAND RESOURCES (LR) – COMPREHENSIVE TRAILS AND TRAVEL MANAGEMENT		
Record #	**Goal/Obj.**	**Decisions**
Goal LR: 4 Utilize a comprehensive approach to travel planning and management to sustain and enhance recreational opportunities and experiences, visitor access/safety, and resource conservation and use. **Objective:** **LR: 4.1** In consideration of the various resources, resource uses, and special designations, all BLM-administered lands within the Lander Field Office will be classified as open, limited, or closed to motorized travel.		
Goal LR: 5 Manage the use of OHVs (see Glossary) in partnership with other land-management agencies, local governments, communities, and interest groups. **Objective:** **LR: 5.1** Pursue the opportunities (such as supplemental funding and labor contributions) to aid the BLM in implementing transportation and travel management planning decisions.		
Goal LR: 6 Provide and improve sustainable access for public needs and experiences through travel management decisions. **Objectives:** **LR: 6.1** Provide route networks and access with consideration of primary travelers and valid existing rights. **LR: 6.2** Where access is a priority, provide for sufficient route networks to meet public needs. **LR: 6.3** Where access is deemed essential for visitor recreation experiences, provide for sufficient routes and route networks to produce targeted recreation settings.		

6000 LAND RESOURCES (LR) – COMPREHENSIVE TRAILS AND TRAVEL MANAGEMENT

Goal LR: 7 Protect natural resources and settings through travel management decisions.

Objectives:

LR: 7.1 Provide route networks and route locations with consideration of Wyoming Standards for Healthy Rangelands.

LR: 7.2 In areas intensively managed to protect natural and cultural resources, provide route networks and route locations that maintain or enhance the quality of the protected resources.

LR: 7.3 In areas intensively managed to protect recreational, archeological, paleontological, and visual setting, provide route densities and route locations that maintain or enhance the identified setting quality.

Goal LR: 8 Promote the safety of public land users through travel management decisions.

Objective:

LR: 8.1 Provide route networks, route locations, or visitor information to promote the safety of public land users.

Goal LR: 9 Minimize conflicts among the various users of BLM-administered lands through travel management decisions.

Objective:

LR: 9.1 Provide route networks, route locations, or visitor information to minimize resource use/user conflict.

Record #	Goal/Obj.	Decisions
6026	LR: 6.1 LR: 7.1 LR: 8.1 LR: 9.1	Motorized travel in the planning area, unless otherwise specified below, is limited to existing roads, primitive roads, and trails (2,213,001 acres) (Map 35) at a minimum, until such time as travel management planning is complete and routes are either designated or closed. This designation is an interim designation until route-specific planning can occur. At the point at which route planning is implemented, motorized travel in the area will be limited to designated roads and trails.

6000 LAND RESOURCES (LR) – COMPREHENSIVE TRAILS AND TRAVEL MANAGEMENT		
Record #	**Goal/Obj.**	**Decisions**
6027	LR: 6.1-6.3	Cross-country motorized travel in all areas with limited and closed travel management designations (Map 35) is prohibited except with the following exceptions and supplementary stipulations: ● BLM authorization to exercise valid existing rights ● For emergency and other purposes as authorized under 43 CFR 8340.0-5(a)(2), (3), (4) and (5) ● Any non-amphibious registered motorboat ● Any military, fire, emergency, or law enforcement vehicle while being used for emergency purposes ● Any vehicle whose use is expressly authorized by the Authorized Officer, or otherwise officially approved ● Vehicles in official use ● Any combat or combat support vehicle when used in times of national defense emergencies Authorizations or permits that include motorized vehicle activities shall address the use of motorized vehicles as part of the authorization or permit. Authorized motorized vehicle activities will require NEPA analysis and other environmental compliance actions and should be compatible with the RMP goals and objectives. Any motorized vehicle use associated with applying for an authorization or permit is subject to the regulations and policies related to the particular application process. See decisions above for additional information regarding use authorizations.
6028	LR: 6.1-6.3 LR: 7.1-7.3 LR: 8.1 LR: 9.1	Evaluate modifications (as needed to meet planning objectives) to all “limited” travel designations during implementation of this plan.
6029	LR: 6.1-6.3 LR: 7.1-7.3 LR: 8.1 LR: 9.1	Grant administrative use authorizations on a case-by-case basis with approval from the Authorized Officer. All access agreements will specify the following: what type of use is allowed and for what purpose, times, dates or seasons of access, where the use will occur, and additional stipulations required to provide for adequate resource protection and to meet pertinent planning decisions.
6030	LR: 6.1-6.3 LR: 7.1-7.3 LR: 8.1 LR: 9.1	In areas with limited travel designations, limit motorized and mechanized travel to within 300 feet from motorized/mechanized routes for direct access for big game carcass retrieval provided that: (1) no resource damage occurs, (2) no new routes are created, and (3) such access is not otherwise prohibited by the Authorized Officer.
6031	LR: 7.2	Critical habitat of the desert yellowhead (357 acres) is closed to motorized and mechanized travel to protect sensitive plant habitat (Map 26).
6032	LR: 7.2	Maintain the existing roadless areas within the Greer Peak and Lysite Mountain regions.
6033	LR: 7.2	The Rocky Ridge segment of the National Historic Trails is closed to motorized travel to protect sensitive historic resources (Map 42).
6034	LR: 5.1 LR: 7.3	Pursue opportunities to develop interagency implementation and enforcement of travel management decisions to improve public education regarding travel and to reduce non-compliance.
6035	LR: 9.1	On groomed, nonmotorized winter trails (for example, Beaver Creek Nordic Ski Area Extensive Recreation Management Area), restrict travel to only nonmotorized uses during the grooming season (December 1 to May 1) unless otherwise approved by the Authorized Officer (Map 36).
OVER-LAND TRAVEL		

6000 LAND RESOURCES (LR) – COMPREHENSIVE TRAILS AND TRAVEL MANAGEMENT		
Record #	**Goal/Obj.**	**Decisions**
6036	LR: 6.1 LR: 7.1-7.3	To protect wildlife winter/parturition habitat, sensitive soils, erodible slopes, watersheds, and visual resources, limit motorized and mechanized travel in the following areas to designated roads and trails subject to seasonal travel limitations (Map 37): ● The Lander Slope ACEC (except the Bus @ Baldwin Creek RMZ, Sinks Canyon Climbing Area RMZ and Baldwin Creek Canyon which are discussed below) is closed to motorized vehicles December 1 to June 15 (21,418 acres). ● The Red Canyon ACEC is closed to all travel (human presence) from December 1 to April 30 and closed to motorized travel from December 1 to June 15 (15,109 acres) (Map 37). ● The Whiskey Mountain ACEC (except the Whiskey Mountain WSA and lands with wilderness characteristics, which are discussed below) is closed to motorized vehicles December 1 to May 15. ● The Green Mountain ACEC is closed to motorized vehicle use December 1 to June 15 at identified points on roads and trails.
6037	LR: 6.1 LR: 7.1-7.3	To protect winter wildlife habitat and watersheds, motorized and mechanized travel is limited in the East Fork ACEC to designated roads and trails (Map 35). The East Fork ACEC is seasonally closed to all travel December 16 to May 15 (consistent with surrounding WGFD lands) except for those BLM-administered lands directly accessed from the East Fork County Road.
6038	LR: 6.1 LR: 7.1-7.3	Motorized travel in the Beaver Rim ACEC (6,421 acres) is limited to existing roads and trails (Map 35) until a Travel Management Plan is completed, at which time motorized travel will be limited to designated routes.
6039	LR: 6.1 LR: 7.1-7.3	The Dubois Badlands WSA (4,561 acres) is closed to motorized vehicles (Map 35).
6040	LR: 6.1 LR: 7.1-7.3	Motorized travel within the immediate Castle Gardens area and its periphery (1,734 acres) is limited to designated roads and trails (Map 28).
6041	LR: 6.1 LR: 7.1-7.3	Motorized travel in the areas adjacent to WSAs (Map 44) is limited to existing roads and trails up to the boundary of the WSA until a Travel Management Plan is completed, at which time motorized travel will be limited to designated routes.
6042	LR: 6.1 LR: 7.1-7.3	The following areas are open to nonmotorized mechanized travel (Map 35): ● The Bus @ Baldwin Creek RMZ ● The Dubois Mill Site Community SRMA ● Johnny Behind the Rocks RMZ ● Sinks Canyon Climbing Area RMZ
6043	LR: 6.1 LR: 6.3 LR: 7.1 LR: 7.3	The following areas are closed to motorized travel in order to manage RMZs in the manner detailed in the *Recreation* section (Map 35): ● The Bus @ Baldwin Creek RMZ ● Johnny Behind the Rocks RMZ ● Sinks Canyon Climbing Area RMZ
6044	LR: 6.1 LR: 6.3 LR: 7.1 LR: 7.3	The following areas are closed to motorized travel and mechanized travel is limited to designated roads and trails (Map 35) in order to maintain wilderness character: ● Little Red Creek Complex (4,954 acres) including: ○ Red Creek ○ Portions of Torrey Rim
6045	LR: 6.1 LR: 6.3 LR: 7.1 LR: 7.3	Baldwin Creek Canyon (2,349 acres) is closed to motorized and mechanized travel in order to maintain the outstanding remarkable WSR values. Travel management in Sweetwater Canyon (9,135 acres) is in accordance with BLM Manual 6330, *Management of Wilderness Study Areas*.

6000 LAND RESOURCES (LR) – COMPREHENSIVE TRAILS AND TRAVEL MANAGEMENT		
Record #	**Goal/Obj.**	**Decisions**
OVER-SNOW TRAVEL		
6046	LR: 4	The following management applies to over-snow vehicles, which are motorized vehicles designed for use over snow and running on a track or tracks and/or a ski or skis. An over-snow vehicle does not include machinery used strictly for the grooming of nonmotorized trails.
6047	LR: 6-9	Areas open to over-snow vehicle travel must have a minimum average of 12 inches of snow or be recognized as a groomed motorized trail, such as the Continental Divide Snowmobile Trail. If these conditions do not exist, then the overland travel designations regulate travel in the area and not over-snow management.
6048	LR: 7.1-7.3 LR: 8.1 LR: 9.1	The following areas are closed (limited) seasonally to over-snow motorized travel (Map 36): ● The Lander Slope ACEC (except the Bus @ Baldwin Creek, Sinks Canyon Climbing Area, and Baldwin Creek Canyon, management for which is provided below) is closed to over-snow motorized vehicles December 1 to June 15 (21,418 acres). ● The Red Canyon ACEC is closed to travel and all human presence from December 1 to April 30 and closed to motorized over-snow travel December 1 to June 15 (15,109 acres). ● The Whiskey Mountain ACEC is closed to motorized over-snow travel December 1 to May 15 (3,687 acres). ● The East Fork ACEC (except for contiguous BLM-administered lands intersected by the East Fork County Road) is closed to all travel consistent with WGFD-managed lands which are currently closed December 16 to May 15. ● The Green Mountain ACEC is closed to motorized vehicles December 1 to June 15. The following areas are closed to over-snow motorized travel: ● The Beaver Creek Nordic Ski Area ERMA (748 acres) ● The Bus @ Baldwin Creek RMZ (1,159 acres) ● The Sinks Canyon Climbing Area RMZ (139 acres) ● The Baldwin Creek Canyon WSR (2,349 acres) ● The Little Red Creek Complex of lands with wilderness characteristics (4,954 acres) The following WSAs are closed to over-snow motorized travel: ● Copper Mountain (6,936 acres) ● Lankin Dome (6,347 acres) ● Miller Springs (6,697 acres) ● Savage Peak (7,177 acres) ● Split Rock (13,963 acres) ● Sweetwater Canyon (9,135 acres) ● Whiskey Mountain (519 acres)
6049	LR: 6.1-6.3	The remainder of the planning area is open to over-snow motorized travel subject to snow depth limits contained in Decision Record 6047 (2,213,923 acres) (Map 36).

Table 2.24. 6000 LAND RESOURCES (LR) – LIVESTOCK GRAZING MANAGEMENT

<table>
<tr><th colspan="3">6000 LAND RESOURCES (LR) – LIVESTOCK GRAZING MANAGEMENT</th></tr>
<tr><th>Record #</th><th>Goal/Obj.</th><th>Decisions</th></tr>
<tr><td colspan="3">Goal LR: 10 Maintain or enhance rangeland health and livestock grazing opportunities.

Objectives:

LR: 10.1 Continue to assess rangeland health on a 10-year cycle in accordance with the Wyoming Standards for Healthy Rangelands. Use rangeland health assessments to prioritize rangeland management.

LR: 10.2 Implement grazing strategies, including developing range improvement projects, to: maintain or enhance vegetative communities and ecosystem functions and to achieve the Wyoming Standards for Healthy Rangelands and grazing objectives in cooperation, consultation, and coordination with permittees/lessees, cooperators and the interested public. Design all range projects in a manner that minimizes potential for invasive species establishment. Monitor for, and treat invasive species associated with existing range improvements.

LR: 10.3 Manage allotment and pasture boundaries to facilitate grazing management that maintains and enhances rangeland health.

LR: 10.4 Update and use the allotment priority ranking (Maintain, Improve, and Custodial categorization process). Revise allotment categories as new information becomes available. Re-categorization does not require an RMP amendment.

LR: 10.5 Manage grazing to provide sustainable forage and establish allowable use levels in those areas authorized for livestock grazing.

LR: 10.6 Develop a forage reserve plan to identify and manage voluntary forage reserves within the planning area.

LR: 10.7 Identify and determine areas and/or allotments available for livestock grazing.

LR: 10.8 Support livestock grazing AUM levels consistent with multiple use and the ability of BLM-administered lands to provide adequate habitat and forage.

LR: 10.9 Manage grazing to assist with successful recovery, reclamation, rehabilitation, and restoration of disturbed rangelands to meet the Wyoming Standards for Healthy Rangelands.

LR: 10.10 As opportunities arise, remove or modify fences to facilitate livestock, wild horse, and wildlife movement and to reduce threats to animal safety.</td></tr>
<tr><td>6050</td><td>LR: 10.7
LR: 10.8</td><td>Livestock grazing in the planning area (Map 38) is managed as follows:
● 2,323,152 acres are open to grazing
● 7,665 acres are closed to grazing
● 63,393 acres are unavailable to grazing</td></tr>
<tr><td>6051</td><td>LR: 10.1</td><td>On a case-by-case basis, adjust allotment and pasture boundaries, including combining allotments, to facilitate management and to achieve progress towards rangeland health. Review livestock conversions on a case-by-case basis.</td></tr>
</table>

6000 LAND RESOURCES (LR) – LIVESTOCK GRAZING MANAGEMENT		
Record #	**Goal/Obj.**	**Decisions**
6052	LR: 10.1 LR: 10.2	In cooperation, consultation, and coordination with permittees/lessees, cooperators, and stakeholders including interested parties, develop and implement appropriate livestock grazing management actions to achieve the Wyoming Standards for Healthy Rangelands, improve forage for livestock, and enhance rangeland health. Within greater sage-grouse Core Area, incorporate greater sage-grouse habitat objectives and management considerations into all BLM grazing allotments containing greater sage-grouse habitat through Allotment Management Plans or permit renewals. Consider the application of BMPs for the protection of greater sage-grouse as terms and conditions of grazing permit/lease renewals. In areas where Wyoming Standards for Healthy Rangelands are not being met or are not making progress toward meeting standards, because of current livestock grazing, modify existing permits or condition the issuance of new permits on the implementation of new grazing strategies to meet standards in accordance with grazing regulations. Apply appropriate BMPs as terms and conditions of the permit.
6053	LR: 10	Changes in the current amounts, kinds, and season of livestock grazing use will be based on a rangeland health assessment or resource monitoring indicating that a grazing use adjustment is necessary, or an analysis indicates that a change in grazing use is appropriate.
6054	LR: 10.3	Conduct grazing program monitoring (see Glossary) of allotments by focusing on Category I allotments in order of priority starting with those allotments that have degraded riparian-wetland areas or are in whole or in part in greater sage-grouse Core Area. Modify BLM-authorized grazing use on an allotment-by-allotment basis to protect soil, water, vegetative resources, and wildlife.
6055	LR: 10.7	When a permittee or lessee voluntarily takes non-use of their grazing preference in a specific grazing allotment, permit annual periods of non-use of grazing preference, without penalty, on a case-by-case basis when the advantage to greater sage-grouse habitat or other resource values warrant.
6056	LR: 10.10	Include terms and conditions on grazing permits and leases that ensure plant growth requirements are met and that adequate forage remains available for greater sage-grouse hiding cover as necessary. Do not permit new range improvement projects within 0.5 mile of water and riparian-wetland areas. Develop project-specific BMPs that become terms and conditions.
6057	LR: 10.2	Locate supplements such as minerals and salt in a manner designed to conserve, enhance, or restore greater sage-grouse habitat.
6058	LR: 10.9 LR: 10.10	Prioritize completion of land health assessments and processing of grazing permits within greater sage-grouse Core Area and on allotments with riparian-wetland areas not achieving or making significant progress towards proper functioning condition. Emphasize allotments that have the best opportunities for riparian-wetland improvement or for conserving, enhancing, or restoring habitat for greater sage-grouse. When conducting land health assessments, include indicators and measurements of structure, condition, and composition of vegetation specific to achieving greater sage-grouse habitat objectives. If local/state seasonal habitat objectives are not available, use greater sage-grouse habitat recommendations from Connelly et al. 2000 and Hagen et al. 2007 or updated research findings.
6059	LR: 10.9	Work cooperatively with permittees, lessees, and other landowners to develop comprehensive grazing management strategies to develop site-specific objectives to conserve, enhance, or restore greater sage-grouse Core Area and general habitat areas. Develop a comprehensive grazing strategy to achieve these objectives. In Core Area, monitor measurable objectives in representative sites and evaluate grazing management to ensure that decisions are achieving greater sage-grouse habitat objectives.
6060	LR: 10.1	Monitor precipitation and vegetative production trends on BLM-administered lands as a tool to understand impacts to soil, water, and vegetative resources. Monitor measurable objectives and evaluate grazing management to confirm that decisions are achieving greater sage-grouse habitat objectives.
6061	LR: 10.4	Allotments are categorized as M, I, and C (see Appendix G (p. 235)). Re-categorize as appropriate during livestock grazing permit renewals.
6062	LR: 10.3 LR: 10.5 LR: 10.6	When livestock grazing permits and/or grazing preference are voluntarily relinquished in portions of or all of an allotment, analyze suitable livestock grazing management, including closure to livestock grazing where appropriate, based on benefits to resources and other uses.

6000 LAND RESOURCES (LR) – LIVESTOCK GRAZING MANAGEMENT		
Record #	**Goal/Obj.**	**Decisions**
6063	LR: 10.5 LR: 10.8	Establish stocking rates in areas preferred by livestock that allow for appropriate utilization levels by livestock, adjusted for the anticipated intensity of use necessary to provide sufficient forage and cover to support and maintain healthy, diverse wildlife and wild horse populations and to achieve the Wyoming Standards for Healthy Rangelands. Utilization levels may vary based on the implementation of a comprehensive grazing strategy or as needed to achieve vegetation objectives.
6064	LR: 10.2 LR: 10.9	Prioritize the management of hot-season grazing on riparian-wetland and meadow complexes to promote recovery or maintenance of key vegetation species appropriate for the ecological site and water quality through the use of comprehensive grazing strategies (see Glossary) as identified in Appendix G (p. 235). In areas of continuous season-long grazing where rangeland health standards are not met, modify existing grazing permits to incorporate rest and/or deferment of grazing to facilitate rangeland health recovery and attainment of rangeland health standards.
6065	LR: 10.3 LR: 10.5	Continue implementation of existing allotment management plans. Develop and implement new comprehensive grazing strategies and Allotment Management Plans with grazing permittees/lessees and interested public to achieve desired resource goals. Grant administrative use authorizations on a case-by-case basis with approval from the Authorized Officer. All administrative use agreements will specify the following: what type of use is allowed and for what purpose; times, dates or seasons of access; where the use will occur; and additional stipulations required to provide for adequate resource protection and to meet planning decisions.
6066	LR: 10.2 LR: 10.5 LR: 10.8	Utilizing Required Design Features and BMPs such as those in Appendix E (p. 217) applied as Conditions of Approval, develop and install range improvement projects necessary to implement comprehensive grazing strategies which will lead to improved rangeland health, or to enhance successful comprehensive grazing strategies already in place. Benefits associated with the projected improvement in rangeland health should exceed the adverse impacts associated with the project infrastructure. Avoid projects that would expand grazing on the landscape without a clear link to a comprehensive grazing strategy and consideration of other resources.
6067	LR: 10.9	Evaluate existing project infrastructure in the development of comprehensive grazing strategies. In consultation with the livestock grazing permittees authorized to use the allotment, identify projects that are no longer necessary, or that are contributing to adverse impacts to other resources, and modify or remove projects as appropriate to mitigate impacts. Evaluate whether the infrastructure contributes to the introduction or spread of invasive nonnative species, and develop mitigation (including removal of infrastructure) to reduce or eliminate weed infestation and spread.
6068	LR: 10.10	Remove or modify fences and cattleguards on a case-by-case basis to enhance other resource values and to facilitate livestock, wild horses, and wildlife movement and management.
6069	LR: 10.5 LR: 10.6	Establish and manage future forage reserves as opportunities arise within the planning area on a voluntary basis or as lands are acquired.
6070	LR: 10.7	Retain designated stock driveways. Permit other livestock trails on a case-by-case basis.
6071	LR 10.8	Require that forage supplements have label information stating that the material is safe/compatible for sheep, wildlife, and wild horses in areas where their ranges overlap. Require that all forage supplement labels be submitted to the field office for approval by the Authorized Officer prior to use.
6072	LR: 10.2	Prohibit placement of salt and mineral supplements, such as low-moisture block supplements, in the following areas: ● Within 0.5 mile of water and riparian-wetland areas ● Within 0.6 mile of the perimeter of occupied greater sage-grouse leks ● Within 0.5 mile of areas being reclaimed from surface disturbance
6073	LR: 10.9	Modify or implement livestock grazing management (Appendix G (p. 235)) to facilitate successful reclamation efforts.

6000 LAND RESOURCES (LR) – LIVESTOCK GRAZING MANAGEMENT		
Record #	**Goal/Obj.**	**Decisions**
6074	LR: 10.3 LR: 10.5 LR: 10.6	Determine livestock grazing management for acquired lands consistent with the management objectives for the acquisition or for the area in which the land is located, for example, an ACEC, WSA, or within the National Trails Management Corridor.
6075	LR: 10.8 LR: 10.9	Manage drought and post-drought recovery periods for the maintenance and improvement of rangeland health, and the cover and forage needs of all grazing animals and wildlife.

Table 2.25. 6000 LAND RESOURCES (LR) – RECREATION

<table>
<tr><th colspan="3">6000 LAND RESOURCES (LR) – RECREATION</th></tr>
<tr><th>Record #</th><th>Goal/Obj.</th><th>Decisions</th></tr>
<tr><td colspan="3">Goal LR: 11 Respond to distinct recreation customer demand by providing for customer realization of diverse activity, experience, and benefit opportunities.

Objectives:

LR: 11.1 Manage SRMAs for specific visitors, affected community residents, local governments and private sector businesses, or other constituents and the communities or other places where these customers originate (recreation-tourism market).

LR: 11.2 SRMA Objective: Specific outcome-focused objectives, recreation setting character conditions, and additional decisions can be found below in the SRMA specific objectives and decisions.

Goal LR: 12 Manage to maintain or improve visitor safety, respond to use/user conflicts, and provide for resource protection.

Objectives:

LR: 12.1 Visitor Services Resource Protection Objective: Increase awareness, understanding, and a sense of stewardship in recreational activity participants so their conduct safeguards cultural and natural resources as defined by Wyoming Standards for Healthy Rangelands or area-specific (such as ACEC or WSA) objectives.

LR: 12.2 Visitor Health and Safety Objective: Ensure that visitors are not exposed to unhealthy or unsafe human-created conditions (defined by a repeat or recurring incident in the same year, of the same type, in the same location, due to the same cause).

LR: 12.3 Use/User Conflict Objective: Achieve a minimum level of conflict between recreation participants and (1) other resource/resource uses sufficient to enable the achievement of identified land use plan goals, objectives, and actions; (2) private landowners sufficient to curb illegal trespass and property damage; and (3) other recreation participants sufficient to maintain a diversity of recreation activity participation.

LR: 12.4 Maintain the views of the Sweetwater Rocks (Lankin Dome, Split Rock, Miller Springs, and Savage Peak WSAs [Map 44]) from Wyoming State Highway 220 and U.S. Highway 287. Maintain the viewshed looking out from Sweetwater Rocks.

LR: 12.5 Route densities and locations in the area around the Sweetwater Rocks will maintain or enhance the scenic and wilderness characteristics.</td></tr>
</table>

6000 LAND RESOURCES (LR) – RECREATION		
Record #	**Goal/Obj.**	**Decisions**
Goal LR: 13 Ensure the facilitation of hunting heritage and wildlife conservation. **Objectives:** **LR: 13.1** Expand wildlife-dependent recreational opportunities on BLM-administered lands. **LR: 13.2** Improve and enhance access to BLM-administered lands important for wildlife-dependent recreational opportunities. **LR: 13.3** Ensure the enjoyment of wildlife-dependent recreation among various demographic groups. **LR: 13.4** Facilitate trophy and high quality hunting opportunities in WGFD hunt units targeted for special management criteria.		
6076	LR: 11	Continue to allow for all recreation activity types in areas allocated as an SRMA or RMZ unless otherwise specified in this land use plan or a subsequent activity level plan.
6077	LR: 12	In greater sage-grouse Core Area, authorize Special Recreation Permits that, through mitigation or design, will have neutral or beneficial impacts to greater sage-grouse.
6078	LR: 12.1-12.3	As funding allows, utilize on the ground monitoring to ensure Objectives 12.1-12.3 are achieved. Through an adaptive management approach, utilize the minimum necessary remedial actions to achieve the stated objectives.
6079	LR: 12.1-12.3	Apply a 14-day campsite occupancy limit throughout the planning area. Where appropriate to the recreational setting of all CDNST SRMAs and ERMAs, enhance the availability of dependable non-potable water sources for users.
6080	LR: 12.1-12.3	Issue Special Recreation Permits for commercial, competitive, or organized group activities as tools to achieve area specific planning goals, objectives, and decisions.
6081	LR: 12	Establish new fee sites on a case-by-case basis consistent with the provisions of the Federal Lands Recreation Enhancement Act of 2004 and as necessary to support management and maintenance of developed sites and related amenities.
6082	LR: 13.3	Allow any individual possessing a valid disabled hunter permit or disabled hunter companion permit from the WGFD to utilize cross-country motorized travel (in all areas except those closed to motorized travel) to retrieve big game carcasses. Additionally exempt scooters or wheelchairs utilized by valid permit holders from travel management restrictions.
6083	LR: 13.2 13.4	Cooperatively pursue offsite mitigation opportunities and other partnerships to enhance wildlife-dependent recreational access to: (1) landlocked BLM-administered lands, and (2) encourage participation of private lands with high wildlife values.
6084	LR: 13.4	Cooperatively develop mitigation measures to reduce the impact or intensity of disruptive activities in Mule Deer Hunt Area 90 and Antelope Hunt Areas 67, 68, 69, and 106.
6085	LR: 11.1	Several WGFD hunt units managed under special criteria overlap with the landscapes associated with National Trails Management Corridor or ACECs. Additional decisions and allowable uses associated with WGFD hunt units managed under special criteria are therefore contained in the *Special Designations* section. Additional decisions for SRMAs and ERMAs are provided below.
DEVELOPED SITE MANAGEMENT		

6000 LAND RESOURCES (LR) – RECREATION		
Record #	**Goal/Obj.**	**Decisions**
6086	LR: 11 LR: 12	The following developed recreation sites (Map 40) are open to oil and gas leasing subject to NSO stipulations, closed to all other mineral leasing and disposal, recommended for withdrawal from locatable mineral entry (to the extent the areas are not withdrawn under pre-FLMPA withdrawals), and excluded for ROWs except for minor ROWs determined to be supportive of recreation management objectives: ● Castle Gardens Archeology Site (78 acres) ● Atlantic City Campground (184 acres) ● Big Atlantic Gulch (181 acres) ● Cottonwood Campground (80 acres) ● Lands adjacent to the Fremont County Green Mountain Campground (20 acres) ● Miners Delight (282 acres) ● Wildhorse Point (20 acres) ● Devils Gate Interpretive Site (112 acres) ● Martins Cove Trail (1,033 acres) ● Split Rock Interpretive Site (242 acres) ● Steamboat Lake Overlook (128 acres)
OVERVIEW OF RECREATION MANAGEMENT AREAS		
6087	LR: 11 LR: 11. LR: 11.2	Administratively recognize the following areas (Map 39) as SRMAs for the long-term protection of recreation outcomes and settings: ● Lander Valley Community-based SRMA (6,126 acres) including the following areas: ○ Johnny Behind the Rocks RMZ (4,828 acres) ○ The Bus @ Baldwin Creek RMZ (1,159 acres) ○ Sinks Canyon Climbing Area RMZ (139 acres) ● Dubois Mill Site Community-based SRMA (608 acres) ● Sweetwater Rocks Undeveloped SRMA (41,806 acres) ● Sweetwater Canyon Undeveloped SRMA (9,136 acres)
6088	LR: 11 LR: 12.1-12.3 LR: 13.1 LR: 13.3	Manage the following areas as individual ERMAs to specifically address local recreation issues and provide for wildlife dependent recreation activities (Map 39): ● Green Mountain (129,579 acres) ● Lander Slope/Red Canyon (exclusive of the Lander Valley Community SRMA) (38,876 acres) ● Whiskey Mountain/East Fork (15,913 acres)
6089	LR: 11 LR: 12.1-12.3	Manage the Beaver Creek Nordic Ski Area (748 acres) as an individual ERMA to specifically address local recreation issues and provide for nonmotorized winter recreation activities.
DETAILED MANAGEMENT OF RECREATION MANAGEMENT AREAS		
LANDER VALLEY COMMUNITY-BASED SRMA: JOHNNY BEHIND THE ROCKS RMZ		

6000 LAND RESOURCES (LR) – RECREATION		
Record #	**Goal/Obj.**	**Decisions**
6090	LR: 11 LR: 11.1 LR: 11.2	Sustain or enhance the Johnny Behind the Rocks RMZ (4,828 acres) for nonmotorized recreationists to engage in horseback riding, hiking, trail running, wildlife viewing, and mountain biking so that participants in visitor assessments/surveys report a higher than average (mean average of 4.0 on a 5-point scale) realization of the following experience and benefit outcomes: ● **Experiences:** Enjoying the sensory experience of a natural landscape, enjoying exercise and physical fitness, developing skills and abilities, enjoying having access to close to home outdoor amenities, and feeling that this community is a special place to live. ● **Benefits:** Improved mental and physical health, greater connection to nature, improved opportunity to view wildlife close up, greater sense of place, improved outdoor recreation skills, heightened sense of satisfaction with our community, and reduced adverse human impacts such as litter, vegetative trampling, and unplanned trails.
6091	LR: 11 LR: 11.1 LR: 11.2	Create and maintain the following desired future recreation setting qualities in the Johnny Behind the Rocks RMZ: ● **Physical Recreation Setting:** The natural setting may have subtle modifications that would be noticed but not draw the attention of the casual observer wandering through the area. Facility and trail development will focus on sufficient densities and developments to provide for a full day (6 to 8 hours or up to 40 miles of trail) of use. Non-trail facilities and structures will continue to be rare and co-located within close proximity to the highway/parking area. ● **Social Recreation Setting:** Usually 3-6 encounters per day off travel routes and 7-15 encounters per day on travel routes. Group size is usually small. ● **Operational Recreation Setting:** Excluding the adjacent highway, the Blue Ridge Road, and livestock permittee access to range improvements; the area will be managed for mountain bikes and other nonmotorized use(s). Mechanized/motorized trail building will be approved as needed to support the identified outcome objective. Onsite controls and services will be present, but harmonize with the natural environment.
6092	LR: 11 LR: 11.1 LR: 11.2 LR: 12.1-12.3	Mineral and ROW actions in the Johnny Behind the Rocks RMZ are managed with the following restrictions: ● Oil and gas leasing subject to NSO ● Closed to geophysical exploration ● Closed to phosphate exploration ● Recommend for withdrawal to locatable mineral entry ● Closed to mineral material sales ● Excluded from ROW actions
6093	LR: 11 LR: 11.1 LR: 11.2 LR: 12.1-12.3	Initiate the following recreation decisions to support the identified outcome objective and desired future setting condition: ● Utilize monitoring and evaluation to adjust management techniques and implementation decisions as necessary to reach desired future setting conditions and provide identified recreation opportunities (activities, experiences, and benefits). ● New trails will be identified and authorized in a master trails plan and supported through implementation-level decision making. ● Pursue land exchanges and access agreements for parcels in and adjacent to this RMZ. ● Solicit partnerships and cooperative agreements to monitor outcome attainment and preferences through customer assessments (focus group interviews or visitor studies). ● Monitor recreation setting condition through onsite patrols May through November.
6094	LR: 11 LR: 11.1-11.2 LR: 12.1-12.3	Close the Johnny Behind the Rocks RMZ to motorized travel, except with an allowance for administrative access agreements with livestock grazing permittees. This management decision does not close motorized travel on the Blue Ridge Road and other roads adjacent to or outside of the SRMA. Motorized travel on and west of Cedar Ridge will be closed as a result of this decision.

6000 LAND RESOURCES (LR) – RECREATION		
Record #	**Goal/Obj.**	**Decisions**
6095	LR: 11 LR: 11.1-11.2 LR: 12.1-12.3	The Johnny Behind the Rocks area is open to cross-country nonmotorized travel.
6096	LR: 11 LR: 11.1-11.2 LR: 12.1-12.3	Manage the Johnny Behind the Rocks RMZ as VRM Class II.
LANDER VALLEY COMMUNITY-BASED SRMA: THE BUS @ BALDWIN CREEK RMZ		
6097	LR: 11 LR: 11.1 LR: 11.2	Sustain or enhance the Bus @ Baldwin Creek RMZ (1,159 acres) for nonmotorized recreationists to engage in horseback riding, hiking, trail running, and mountain biking so that participants in visitor assessments/surveys report a higher than average (mean average of 4.0 on a 5-point scale) realization of experience and benefit outcomes listed below: ● **Experiences:** Enjoying having easy access to natural landscapes, enjoying exercise and physical fitness, enjoying closeness of friends and family, enjoying having access to close to home outdoor amenities, and feeling that this community is a special place to live. ● **Benefits:** Improved mental and physical health, greater connection to nature, greater sense of place, stronger ties with family and friends, heightened sense of satisfaction with our community, and reduced adverse human impacts such as litter, vegetative trampling, and unplanned trails.
6098	LR: 11 LR: 11.1 LR: 11.2	Create and maintain the following desired future recreation setting qualities in The Bus @ Baldwin Creek RMZ: ● **Physical Recreation Setting:** Majority of the area is on or near improved country roads, but at least 0.5 mile from any highways. Natural setting may have subtle modifications that would be noticed but not draw the attention of the casual observer wandering through the area. Trails may exist but do not exceed standard and density to carry expected use. Facilities and structures are rare and isolated. ● **Social Recreation Setting:** Usually 3-6 encounters per day off travel routes and 7-15 encounters per day on travel routes. Usually group size is small. ● **Operational Recreation Setting:** Excluding county roads, subdivision access roads, and livestock permittee access to range improvements; the area will be managed for nonmotorized use. Onsite controls and services are present, but harmonize with the natural environment.
6099	LR: 11 LR: 11.1-11.2 LR: 12.1-12.3	The Bus @ Baldwin Creek RMZ is within the Lander Slope ACEC; therefore, the mineral and realty actions in this area are as provided in the Lander Slope ACEC decisions.

6000 LAND RESOURCES (LR) – RECREATION		
Record #	**Goal/Obj.**	**Decisions**
6100	LR: 11 LR: 11.1-11.2 LR: 12.1-12.3	Initiate the following recreation decisions to support the identified outcome objective and desired future setting condition: ● Utilize monitoring and evaluation to adjust management techniques and implementation decisions as necessary to reach desired future setting conditions and provide identified recreation opportunities (activities, experiences, and benefits). ● Facility and trail development will focus on sufficient densities and developments to provide for a 0.25 day (2-4 hours) of use. ● Develop partnerships to pursue land acquisitions and easements necessary to maintain characteristic landscape, natural setting, and targeted experiences and benefits. ● Solicit partnerships and cooperative agreements to monitor outcome attainment and preferences through customer assessments (focus group interviews or visitor studies). ● Monitor recreation setting condition through onsite patrols May through November.
6101	LR: 11 LR: 11.1-11.2 LR: 12.1-12.3	Close The Bus @ Baldwin Creek RMZ to motorized travel. Allow livestock grazing administrative use authorization.
6102	LR: 11 LR: 11.1-11.2 LR: 12.1-12.3	The Bus @ Baldwin Creek RMZ is open to cross-country nonmotorized travel.
6103	LR: 11 LR: 11.1-11.2 LR: 12.1-12.3	Manage The Bus @ Baldwin Creek RMZ as VRM Class II.
LANDER VALLEY COMMUNITY-BASED SRMA: SINKS CANYON CLIMBING AREA RMZ		
6104	LR: 11 LR: 11.1 LR: 11.2	Sustain or enhance the Sinks Canyon Climbing RMZ (139 acres) for muscle-powered recreationists to engage in climbing and hiking so that participants in visitor assessments/surveys report a higher than average (average of 4.0 on a 5-point scale) realization of experience and benefit outcomes listed below: ● **Experiences:** Enjoying risk taking adventure, developing skills and abilities, enjoying meeting new people, enjoying teaching others about the outdoors, feeling that this community is a special place to live, and feeling good about how this attraction is being used and enjoyed. ● **Benefits:** Improved mental and physical health, improved skills for outdoor enjoyment, improved leadership abilities, improved teamwork and cooperation, better sense of place, heightened sense of satisfaction with our community, increased local tourism revenue, and greater value-added local services/industry.

6000 LAND RESOURCES (LR) – RECREATION

Record #	Goal/Obj.	Decisions
6105	LR: 11 LR: 11.1 LR: 11.2	Create and maintain the following desired future recreation setting qualities in the Sinks Canyon Climbing RMZ: ● **Physical Recreation Setting:** Majority of the area is directly adjacent to Wyoming Highway 131. Natural setting may have subtle modifications that would be noticed but not draw the attention of the casual observer wandering through the area. Trails may exist but do not exceed standard and density to carry expected use. Facilities and structures are rare and isolated. ● **Social Recreation Setting:** Contact with other parties is intermittent but visitation remains heavy. ● **Operational Recreation Setting:** Excluding county roads, adjacent highway, adjacent U.S. Forest Service and private roads; motorized use will not be allowed on BLM-administered lands. Onsite controls and services are present, but harmonize with the natural environment. Majority of services are provided by the Wyoming State Parks and United States Forest Service.
6106	LR: 11 LR: 11.1-11.2 LR: 12.1-12.3	Mineral and realty actions in the Sinks Canyon Climbing RMZ is within the Lander Slope ACEC; therefore, the mineral and realty actions in this area are as provided in the Lander Slope ACEC decisions.
6107	LR: 11 LR: 11.1-11.2 LR: 12.1-12.3	Initiate the following recreation decisions to support the identified outcome objective and desired future setting condition: ● Utilize monitoring and evaluation to adjust management techniques and implementation decisions as necessary to reach desired future setting conditions and provide identified recreation opportunities (activities, experiences, and benefits). ● Work with local climbing community and adjacent land management agencies to maintain this area. ● Develop partnerships to pursue land acquisitions and easements necessary to maintain characteristic landscape, natural setting, and targeted experiences and benefits. ● Solicit partnerships and cooperative agreements to monitor outcome attainment and preferences through customer assessments (focus group interviews or visitor studies). ● Monitor recreation setting condition through onsite patrols.
6108	LR: 11 LR: 11.1-11.2 LR: 12.1-12.3	The Sinks Canyon Climbing RMZ is open to cross-country nonmotorized travel.
6109	LR: 11 LR: 11.1-11.2 LR: 12.1-12.3	Limit motorized travel in the Sinks Canyon Climbing RMZ to designated roads and trails. No designated motorized route exists within this area.
6110	LR: 11 LR: 11.1-11.2 LR: 12.1-12.3	Manage the Sinks Canyon Climbing RMZ as VRM Class II.
DUBOIS MILL-SITE COMMUNITY-BASED SRMA		

6000 LAND RESOURCES (LR) – RECREATION		
Record #	**Goal/Obj.**	**Decisions**
6111	LR: 11 LR: 11.1 LR: 11.2 LR: 13.1-13.3	Sustain or enhance the Dubois Mill-Site SRMA for nonmotorized recreationists to engage in hiking, walking, horseback riding, wildlife viewing, and hunting so that participants in visitor assessments/surveys report a higher than average (average of 4.0 on a 5-point scale) realization of experience and benefit outcomes below: ● **Experiences:** Escaping everyday responsibilities for a while, enjoying frequent access to outdoor physical activity in a natural environment, and enjoying the area's wildlife, scenery, views, and aesthetics. ● **Benefits:** Better mental and physical health, increased satisfaction with life, greater cultivation of an outdoor oriented lifestyle, greater understanding and respect for private property, heightened sense of community pride and satisfaction, greater environmental awareness and stewardship, greater aesthetic appreciation, and preservation of this special place.
6112	LR: 11 LR: 11.1 LR: 11.2 LR: 13.1-13.3	Create and maintain the following desired future recreation setting qualities in the Dubois Mill-Site SRMA: ● **Physical Recreation Setting:** The area is within 0.5 mile of the town of Dubois. The natural setting may have modifications that would be noticed but not draw the attention of an observer wandering through the area. Trails may exist but will not exceed standard and density to carry expected use. Facilities and structures are rare and within close proximity to highway/parking area. ● **Social Recreation Setting:** Usually 7-14 encounters with other groups per day. ● **Operational Recreation Setting:** Mountain bikes and other mechanized use allowed, but all use is nonmotorized. Onsite controls and services are present, but harmonize with the natural environment. Offsite services such as an area brochure will be available.
6113	LR: 11 LR: 11.1 LR: 11.2 LR: 12.1-12.3 LR: 13.1-13.3	Mineral and ROW actions in the Dubois Mill-Site SRMA are managed with the following restrictions: ● Closed to oil and gas leasing ● Closed to geophysical exploration ● Closed to phosphate leasing ● Open to locatable minerals ● Closed to mineral material disposals ● Excluded to major ROWs ● Avoided for minor ROWs
6114	LR: 11 LR: 11.1 LR: 11.2 LR: 12.1-12.3 LR: 13.1-13.3	Initiate the following recreation decisions to support the identified outcome objective and desired future setting condition: ● Utilize monitoring and evaluation to adjust management techniques and implementation decisions as necessary to reach desired future setting conditions and provide identified recreation opportunities (activities, experiences, and benefits). ● Pursue partnerships with the town of Dubois and other partners to ensure continued enforcement of travel management designations. ● Establish a low level of connecting nonmotorized loop trails, as discussed in Dubois local project plans. ● Develop partnerships to pursue land acquisitions and easements necessary to maintain characteristic landscape, natural setting, and targeted experiences and benefits. ● Light interpretation may be developed to facilitate targeted outcomes; utilize community members, academic organizations, and community centers to meet needs for higher levels of education and interpretation. ● Assist the community with project design, technical expertise, and other services in order to help achieve the objectives outlined in the Dubois Gateway Plan document. ● Solicit partnerships and cooperative agreements to: monitor outcome attainment and preferences through customer assessments (focus group interviews or visitor studies). ● Monitor recreation setting condition through onsite patrols (June through September).

6000 LAND RESOURCES (LR) – RECREATION		
Record #	**Goal/Obj.**	**Decisions**
6115	LR: 11 LR: 11.1-11.2 LR: 12.1-12.3 LR: 13.1-13.3	Motorized travel in the Dubois Mill-Site SRMA will be limited seasonally (closed between December 1 to May 15) and to designated roads and trails.
6116	LR: 11 LR: 11.1-11.2 LR: 12.1-12.3 LR: 13.1-13.3	Mechanized travel in the Dubois Mill-Site SRMA will be limited seasonally (closed between December 1 to May 15) and to designated roads and trails.
6117	LR: 11.2 LR: 12.1-12.3 LR: 13.1-13.3	Manage the Dubois Mill-Site SRMA as VRM Class II.
SWEETWATER CANYON UNDEVELOPED SRMA		
6118	LR: 11 LR: 11.1-11.2 LR: 13.1-13.3	Sustain or enhance the Sweetwater Canyon SRMA for back country enthusiasts to engage in hiking, backpacking, fishing, horseback riding, hunting, and wildlife viewing so that participants in visitor assessments/surveys report a higher than average (average of 4.0 on a 5-point scale) realization of experience and benefit outcomes listed below: ● **Experiences:** Enjoying the sensory experience of a natural landscape, feeling good about solitude, being isolated and independent, and enjoying an escape from crowds of people. ● **Benefits:** Enhanced awareness and understanding of nature, improved appreciation of nature, greater connection to nature, improved opportunity to view wildlife close up, better understanding of wildlife's contribution to one's quality of life, greater sense of place, reduced human impacts such as litter, vegetative trampling, and unplanned trails, increased awareness and protection of natural landscapes, enhanced ability for visitors and residents to find areas providing desired recreation experiences and benefits, and maintenance of community's distinctive recreation tourism market.

6000 LAND RESOURCES (LR) – RECREATION		
Record #	**Goal/Obj.**	**Decisions**
6119	LR: 11 LR: 11.1-11.2 LR: 13.1-13.3	Create and maintain the following desired future recreation setting qualities in Sweetwater Canyon SRMA: ● **Physical Recreation Setting:** Implement motorized vehicle closures to enhance back country setting which is essentially an unmodified natural environment. Evidence of humans is unnoticed by an observer wandering through the area. Trails may exist but do not exceed standard to carry expected use. Facility and structures are extremely rare, and are located in disturbed (e.g., roaded or front country) areas. ● **Social Recreation Setting:** Usually 3-6 encounters per day off travel routes (e.g., campsites) and 7-15 encounters per day on travel routes. Usual group size is small. ● **Operational Recreation Setting:** Access to this area utilizes routes identified as open to motorized vehicles and nonmotorized mechanized use. A large portion of this area (the WSA and inaccessible areas) does not provide for any motorized or mechanized use. Onsite controls and services are low. Minimum amount of infrastructure necessary to achieve planning objectives.
6120	LR: 11 LR: 11.1 LR: 11.2 LR: 12.1-12.3 LR: 13.1-13.3	The Sweetwater Canyon WSA is open to livestock grazing. If grazing permits in Sweetwater Canyon are voluntarily relinquished the BLM will close the area to livestock grazing. Note: Livestock grazing in all WSAs, including the Sweetwater Canyon WSA, is managed in accordance with BLM Manual 6330, *Management of Wilderness Study Areas.*
6121	LR: 11 LR: 11.1 LR: 11.2 LR: 12.1-12.3 LR: 13.1-13.3	Initiate the following recreation decisions to support the identified outcome objective and desired future setting condition: ● Utilize monitoring and evaluation to adjust management techniques and implementation decisions as necessary to reach desired future setting conditions and provide identified recreation opportunities (activities, experiences, and benefits). ● The WSA will be closed to organized group and competitive event Special Recreation Permits. ● Other Special Recreation Permits will be limited as necessary to reach and maintain desired future setting condition. ● A foot/horseback trail may eventually need to be developed or identified (from existing trails within the area) to ensure resource protection. Additional trails may also be added to connect the main trail to access points. ● Some onsite visitor orientation (kiosk and signs) may be developed. ● Work with the WGFD and other interested entities to maintain and enhance terrestrial and aquatic habitat in the area. ● Solicit partnerships to ensure adequate maintenance of the area's signs and fences. ● Solicit partnerships and cooperative agreements to: monitor outcome attainment and preferences through customer assessments (focus group interviews or visitor studies). ● Monitor recreation setting condition through onsite patrols.
SWEETWATER ROCKS UNDEVELOPED SRMA including the SWEETWATER ROCKS PERIPHERY		

6000 LAND RESOURCES (LR) – RECREATION		
Record #	**Goal/Obj.**	**Decisions**
6122	LR: 11 LR: 11.1 LR: 11.2 LR: 12.1-12.3 LR: 13.1-13.3	Sustain or enhance the Sweetwater Rocks Undeveloped SRMA for back country enthusiasts to engage in hiking, backpacking, climbing, horseback riding, hunting, and wildlife viewing so that participants in visitor assessments/surveys report a higher than average (average of 4.0 on a 5-point scale) realization of experience and benefit outcomes listed below: ● **Experiences:** Developing skills and abilities, enjoying having access to hands-on environmental learning, enjoying the sensory experience of a natural landscape, feeling good about solitude, being isolated and independent, and enjoying teaching others about the outdoors. ● **Benefits:** Improved leadership abilities, improved outdoor knowledge and self-confidence, enhanced awareness and understanding of nature, improved appreciation of nature, greater connection to nature, improved opportunity to view wildlife close up, greater respect for private property and local lifestyles, greater sense of place, improved outdoor recreation skills, reduced human impacts such as litter, vegetative trampling, and unplanned trails, improved respect for privately owned lands, increased awareness and protection of natural landscapes, enhanced ability for visitors and residents to find areas providing desired recreation experiences and benefits, maintenance of community's distinctive recreation tourism market and value-added service industry. To support the values in the Sweetwater Rocks Undeveloped SRMA, manage 118,165 acres including the SRMA to protect sensitive visual and geologic resources as provided below.
6123	LR: 11 LR: 11.1 LR: 11.2 LR: 13.1-13.3	Create and maintain the following desired future recreation setting qualities in the Sweetwater Rocks Undeveloped SRMA: ● **Physical Recreation Setting:** Implement motorized vehicle closures to enhance back country setting which is essentially an unmodified natural environment. Evidence of humans is unnoticed by an observer wandering through the area. Trails may exist but do not exceed standard to carry expected use. Facility and structures are extremely rare, and are located in disturbed (for example, roaded or front country) areas. ● **Social Recreation Setting:** Usually 3-6 encounters per day off travel routes (for example, campsites) and 7-15 encounters per day on travel routes. Usual group size is small. ● **Operational Recreation Setting:** Access to this area utilizes routes identified as open for motorized vehicles and to nonmotorized routes. A large portion of this area (WSAs and inaccessible portions) does not allow for any motorized/mechanized use. Onsite controls and services are low, but will be utilized to minimum extent necessary to achieve planning objectives
6124	LR: 11 LR: 11.1-11.2 LR: 12.1-12.3 LR: 13.1-13.3	Mineral and realty actions in the area inside of the four Sweetwater Rocks WSAs are managed under BLM Manual 6330, *Management of Wilderness Study Areas.* Manage the Sweetwater Rocks periphery (118,165 acres) with relevant and important values for the viewshed of the Sweetwater Rocks Complex WSA as VRM Class II, except the portion that is within the Lost Creek ROW corridor which is managed as Class III. The Sweetwater Rocks periphery (118,165 acres) is closed to mineral material disposal except for preexisting sales and free use permits.

6000 LAND RESOURCES (LR) – RECREATION		
Record #	**Goal/Obj.**	**Decisions**
6125	LR: 11 LR: 11.1 LR: 11.2 LR: 12.1-12.3 LR: 13.1-13.3	Initiate the following recreation decisions to support the identified outcome objective and the desired future setting condition: ● Utilize monitoring and evaluation to adjust management techniques and implementation decisions as necessary to reach desired future setting conditions and provide identified recreation opportunities (activities, experiences, and benefits). ● Utilize visitor information and partnerships to emphasize the importance of: receiving landowner permission before crossing any and all private lands, abiding by Wyoming State land restrictions on overnight camping, and increasing understanding of land ownership patterns in the area. ● Some onsite visitor orientation (kiosk and signs) may be developed. ● Solicit partnerships and cooperative agreements to: monitor outcome attainment and preferences through customer assessments (focus group interviews or visitor studies). ● Monitor recreation setting condition through onsite patrols.
6126	LR: 11 LR: 11.1 LR: 11.2 LR: 12.1-12.3 LR: 13.1-13.3	Limit motorized travel in the Sweetwater Rocks Undeveloped SRMA outside of the WSA, including the Sweetwater Rocks periphery, to existing roads and trails until a Travel Management Plan is completed, at which time motorized travel will be limited to designated routes.
6127	LR: 11 LR: 11.1 LR: 11.2 LR: 12.1-12.3 LR: 13.1-13.3	The Sweetwater Rocks Undeveloped SRMA outside of the WSA is open to cross-country nonmotorized travel.
6128	LR: 11 LR: 11.1 LR: 11.2 LR: 12.1-12.3 LR: 13.1-13.3	Work in cooperation with all partners to pursue improved nonmotorized access.
6129	LR: 11 LR: 11.1 LR: 11.2 LR: 12.1-12.3 LR: 13.1-13.3	The SRMA is managed as VRM Class I in the WSAs and Class II in the remainder of the SRMA.
GREEN MOUNTAIN ERMA		

6000 LAND RESOURCES (LR) – RECREATION		
Record #	**Goal/Obj.**	**Decisions**
6130	LR: 11 LR: 12.1-12.3 LR: 13.1-13.3	In the Green Mountain ERMA (129,579 acres [Map 39]), recreation sites, national and regional trails, local system trails, trailheads and interpretive sites with exceptional recreational values or significant public interest are managed as follows (except where more restrictive management is provided by another decision): ● Open to oil and gas, geothermal, and other fluid mineral leasing subject to: relocation and/or mitigation to meet VRM classes, protecting visitor safety, and avoiding subjecting visitors to the sights and sounds of industrial development. ● Open to major and minor ROWs subject to: timing limitations to avoid big game hunting seasons (September 1 through November 15) and relocation and/or mitigation to meet VRM classes, protect visitor safety, and avoid subjecting visitors to the sights and sounds of industrial development.
6131	LR: 13.1 LR: 13.3	Maintain existing back country setting in the Whiskey Peak area (10,250 acres [Map 41]).
6132	LR: 13.1-13.3	Maintain the Green Mountain Loop Road to provide access and opportunities for low clearance vehicles. Enhance wildlife and wild horse viewing opportunities and consider additional watchable wildlife interpretation opportunities.
6133	LR: 12.1-12.3 LR: 13.1-13.3	Additional allowable use decisions for the portion of the Green Mountain ERMA located within the Green Mountain ACEC are provided in that section.
LANDER SLOPE/RED CANYON ERMA		
6134	LR: 13.1 LR: 13.3	Maintain existing back country setting in the Weiser Draw area (2,487 acres [Map 41]).
6135	LR: 13.1 LR: 13.3	Minimally maintain the Shoshoni Lake Road to protect resources and ensure passage of high clearance 4x4 vehicles. The remainder of the route will be a motorized trail for OHV use where passage of stock vehicles may not be ensured.
6136	LR: 12.2 LR: 12.3	Vegetation manipulation in the Baldwin Creek Climbing Area is authorized only if required for human safety. The area is closed to commercial timber sales including firewood sales.
6137	LR: 11 LR: 12.1-12.3 LR: 13.1-13.3	The ERMA is within the Lander Slope and Red Canyon ACECs; therefore, additional decisions and allowable use decisions for the Lander Slope/Red Canyon ERMA are contained in the *Areas of Critical Environmental Concern* section.
WHISKEY MOUNTAIN/EAST FORK ERMA		
6138	LR: 11 LR: 12.1-12.3 LR: 13.1-13.3	The Whiskey Mountain/East Fork ERMA (15,913 acres [Map 39]) is within the Whiskey Mountain and East Fork ACECs; therefore additional decisions and allowable use decisions for the Whiskey Mountain/East Fork ERMA are contained in the *Areas of Critical Environmental Concern* section.
BEAVER CREEK NORDIC SKI AREA ERMA		

6000 LAND RESOURCES (LR) – RECREATION		
Record #	**Goal/Obj.**	**Decisions**
6139	LR: 11 LR: 12.1-12.3	Manage the Beaver Creek Nordic Ski Area (748 acres [Map 39]) as VRM Class II.
6140	LR: 12.1-12.3	The Beaver Creek Nordic Ski Area is within the South Pass Historic Landscape ACEC; therefore allowable use decisions for the Beaver Creek Nordic Ski Area are contained in the *Areas of Critical Environmental Concern* section.

Table 2.26. 7000 SPECIAL DESIGNATIONS (SD) – NATIONAL CONSERVATION LANDS – NATIONAL TRAILS MANAGEMENT CORRIDOR

7000 SPECIAL DESIGNATIONS (SD) – NATIONAL CONSERVATION LANDS – NATIONAL TRAILS MANAGEMENT CORRIDOR		
Record #	**Goal/Obj.**	**Decisions**
Goal SD: 1 Provide users with opportunities to view, experience, and appreciate examples of prehistoric and historic human use of the resources along the Congressionally Designated Trails demonstrating how these resources are being managed: (1) in harmony with the environment, (2) in support of the nature and purposes for which the trail was designated, and (3) without detracting from the overall experience of the trail.		
Goal SD: 2 Maintain the CDNST corridor to provide high-quality scenic, primitive hiking and horseback riding opportunities. Conserve natural, historic, and cultural resources along the trail.		
Goal SD: 3 Use of the CDNST will minimally affect adjacent natural and cultural environments and harmonize with the management objectives of land and resource uses which are, or may be, occurring on the lands through which the trail passes.		
Goal SD: 4 Preserve and protect the historical remains and historical settings of the Oregon, Mormon Pioneer, California, and Pony Express NHTs and their associated historic sites for public use and enjoyment. **Objectives:** **SD: 4.1** Maintain and enhance the significant qualities of high-potential NHT segments and sites as defined in the National Trails System Act. Avoid adverse effects (as defined in the National Historic Preservation Act and the State Protocol between the Wyoming BLM and the Wyoming State Historic Preservation Office) to intact NHT segments, their settings, and associated sites. **SD: 4.2** Protect remnants, ruts, traces, graves, campsites, landmarks, artifacts, and other remains associated with the NHTs to enhance historical research and public use and enjoyment.		

<table>
<tr><th colspan="3">7000 SPECIAL DESIGNATIONS (SD) – NATIONAL CONSERVATION LANDS – NATIONAL TRAILS MANAGEMENT CORRIDOR</th></tr>
<tr><th>Record #</th><th>Goal/Obj.</th><th>Decisions</th></tr>
<tr><td colspan="3">Goal SD: 5 Provide for the outdoor recreation needs of an expanding population and promote the preservation of public access and enjoyment of the open air, outdoor areas, and historic resources of the nation, in a manner that supports the nature and purpose of the Congressionally Designated Trails.

Objectives:

SD: 5.1 Manage the landscape (viewshed) associated with the NHTs so that visitors continue to get a sense of how this landscape influenced emigrants along the trails.

SD: 5.2 Manage SRMAs along Congressionally Designated Trails for specific visitors, affected community residents, local governments and private sector businesses, or other constituents and the communities or places where these customers originate (recreation-tourism market).

SD: 5.3 Congressionally Designated Trails SRMA Objective: Specific outcome-focused objectives, recreation setting character conditions, and the administrative, marketing, and monitoring framework can be found below in the SRMA-specific objective and decisions.

SD: 5.4 Congressionally Designated Trails Visitor Services Resource Protection Objective: Increase awareness, understanding, and a sense of stewardship in NHTs recreational activity participants so their conduct safeguards cultural and natural resources in accordance with the Wyoming Standards for Healthy Rangelands and other resource objectives.

SD: 5.5 Congressionally Designated Trails Visitor Health and Safety Objective: Ensure that visitors are not exposed to unhealthy or unsafe human-created conditions (defined by a repeat incident in the same year, of the same type, in the same location, due to the same cause).

SD: 5.6 Congressionally Designated Trails Use/User Conflict Objective: Achieve a minimum level of conflict between recreation participants and: (1) other resource and/or resource uses sufficient to enable the achievement of identified land use plan goals, objectives, and actions; (2) private land owners sufficient to curb illegal trespass and property damage; and (3) other recreation participants sufficient to maintain a diversity of recreation activity participation.</td></tr>
<tr><td>7001</td><td>SD: 1
SD: 2-4
SD: 4.1-4.2
SD: 5
SD: 5.1-5.6</td><td>The National Trails Management Corridor is 481,976 acres (Map 43). The National Trails Management Corridor is managed with the allocations, allowable uses, and decisions described below.</td></tr>
</table>

7000 SPECIAL DESIGNATIONS (SD) – NATIONAL CONSERVATION LANDS – NATIONAL TRAILS MANAGEMENT CORRIDOR		
Record #	**Goal/Obj.**	**Decisions**
7002	SD: 1 SD: 2-4 SD: 4.1-4.2 SD: 5 SD: 5.1-5.6	Mineral actions in the National Trails Management Corridor are managed with the following prescriptions: ● Open to oil and gas leasing subject to NSO stipulations ● Closed to geophysical exploration ● Closed to phosphate leasing ● Mineral materials disposals in the National Trails Management Corridor are managed as follows: ○ No mineral materials disposals will be authorized if it is determined by the Authorized Officer that impacts (both direct and cumulative) associated with the action will conflict with the nature and purpose of the Congressionally Designated Trails. ○ Mineral materials disposals associated with improvements on private land will be authorized if it is determined by the Authorized Officer that the following can be achieved: ■ They create no more than a weak contrast as viewed from the Congressionally Designated Trails. ■ They meet VRM designations for the disturbance area, as viewed from Key Observation Points impacted by the disturbance. ○ Other mineral materials disposals will be authorized if it is determined by the Authorized Officer that the following can be achieved: ■ They are hidden from view from the Congressionally Designated Trails. ■ They meet the VRM designation for the disturbance area, as viewed from Key Observation Points impacted by the disturbance. ● Locatable mineral entry: ○ Retain existing locatable mineral withdrawals (Map 9) at the following locations. Recommend mineral withdrawal extensions prior to the expiration of any existing mineral withdrawal that can expire. ■ Split Rock (645 acres) ■ Rocky Ridge (833 acres) ■ Martins Cove (603 acres) ■ Devil's Gate (395 acres) ■ Aspen Grove (917 acres) (Aspen Grove is within a WSA and managed in accordance with BLM Manual 6330, *Management of Wilderness Study Areas*) ■ Inscription Withdrawal (315 acres) ● Recommend new locatable mineral withdrawals for: ○ The ruts and swales of the NHTs and 10 feet on either side ○ Gilespie Place area (41 acres) ○ Rock Creek Hollow (51 acres) ○ Ice Slough (110 acres)
7003	SD: 1 SD: 2-4 SD: 4.1-4.2 SD: 5 SD: 5.1-5.6	New audible and atmospheric effects will not exceed current levels in the National Trails Management Corridor. Proposals that introduce new audible (noise) and atmospheric (smoke, dust, etc.) effects within the National Trails Management Corridor will be authorized only if they do not cause adverse impacts to the Congressionally Designated Trails, significant Congressionally Designated Trails-related historical or recreational sites, or Congressionally Designated Trail-related recreational activities.

7000 SPECIAL DESIGNATIONS (SD) – NATIONAL CONSERVATION LANDS – NATIONAL TRAILS MANAGEMENT CORRIDOR		
Record #	**Goal/Obj.**	**Decisions**
7004	SD: 2-4 SD: 5.1	Manage the National Trails Management Corridor as VRM Class II. The Lost Creek, Lost Creek Spur, and Pathfinder designated utility crossings and the CDNST ERMA are managed as VRM Class III. On a case-by-case basis, remove or reclaim visually intrusive existing roads, facilities, and ROWs to attain NHT or CDNST management objectives.
7005	SD: 1 SD: 2-4 SD: 4.1-4.2 SD: 5 SD: 5.1-5.6	Realty actions in the National Trails Management Corridor are managed as follows: ● The National Trails Management Corridor is avoided for ROWs except in designated utility corridors. ● Industrial wind-energy development is excluded. ● Electrical transmission and distribution ROWs will be located only in designated utility corridors, except transmission lines to deliver power to end users. ● No realty actions will be authorized if it is determined by the Authorized Officer that impacts (both direct and cumulative) associated with the action will conflict with the nature and purpose of the Congressionally Designated Trails. Realty actions associated with access and improvements on private land will be authorized if it is determined by the Authorized Officer that the following can be achieved: ● They create no more than a weak contrast as viewed from the Congressionally Designated Trails ● They meet VRM designations for the disturbance area, as viewed from Key Observation Points impacted by the disturbance Other realty actions will be authorized if it is determined by the Authorized Officer that the following can be achieved: ● They are hidden from view of the Congressionally Designated Trails ● They meet the VRM designation for the disturbance area, as viewed from Key Observation Points impacted by the disturbance Pursue opportunities to acquire lands within the National Trails Management Corridor to support the goals and objectives of the Corridor. Lands within the National Trails Management Corridor may be disposed of or leased under the R&PP Act if subject to an easement or other restriction on use that would ensure conformity with the goals and objectives of the Corridor and the disposal would serve important public values.

7000 SPECIAL DESIGNATIONS (SD) – NATIONAL CONSERVATION LANDS – NATIONAL TRAILS MANAGEMENT CORRIDOR		
Record #	**Goal/Obj.**	**Decisions**
7006	SD: 1 SD: 2-4 SD: 4.1-4.2 SD: 5 SD: 5.1-5.6	Authorize NHT crossings by new major utility systems only in the following designated utility corridors: ● Beaver Creek Corridor (Map 34). This corridor is for below ground ROW only. ● Pathfinder Corridor (Map 34). This corridor is for below ground ROW only. ● Bison Basin Corridor (Map 34). This corridor is for below ground lines only, and must follow the criteria listed in Appendix C (p. 193). ● Lost Creek Corridor (Map 34). This corridor is for above and below ground ROW. For all of the above designated corridors, where a proposed project is close enough to adversely impact the NHTs, the project shall employ every feasible practice to limit disturbance to as small an area as possible. Additional cost associated with these practices is not a basis for determining that the practices cannot be incorporated. These practices include, but are not limited to: ● Reducing the amount of surface disturbance as much as possible ● Co-locating the project ROW unless the proponent can clearly demonstrate that it cannot be safely co-located ● Confining new disturbance within existing disturbance areas, unless the proponent can clearly demonstrate that it cannot be safely confined ● Locating the new project within or immediately adjacent to existing disturbance zones, unless the proponent can clearly demonstrate why it cannot be done ● Bore under high-quality ruts ● Additional mitigation and BMPs will be developed in response to site-specific proposals
7007	SD: 2 SD: 3	Motorized vehicle crossings or use on the CDNST is managed in accordance with the 2009 Continental Divide National Scenic Trail Comprehensive Plan. The BLM will not authorize activities that will expose CDNST trail users to heavy/frequent motorized traffic along the trail unless the proposed activity is within a location that currently experiences heavy/frequent motorized traffic (county and BLM-maintained roads).
7008	SD: 1 SD: 2-4 SD: 4.1-4.2 SD: 5 SD: 5.1-5.66	Highly visible projects and/or projects out of scale with the surrounding environment (such as large wind-energy development projects, gas plants, power plants, and high voltage transmission lines) that are outside of the National Trails Management Corridor are authorized only if the project causes no more than a weak contrast (as defined in the BLM Visual Resource Manual), as viewed from important corridor related recreation features, high potential sites and segments, and other key observation points that contribute to the nature and purpose of the National Historic Trails.
7009	SD: 5.6	The NHTs and CDNST are open to livestock grazing.
7010	SD: 1 SD: 4.1-4.2 SD: 5.2-5.6	Range projects and mineral supplementation and their associated impacts within the National Trails Management Corridor are allowed if consistent with VRM class objectives (Map 30).
7011	SD: 2 SD: 3	Unless otherwise stated, apply restrictions (site-specific relocation) on developed and future recreation sites and to mapped and future national trails, trailheads, and interpretive sites with exceptional recreation values or significant public interest.

7000 SPECIAL DESIGNATIONS (SD) – NATIONAL CONSERVATION LANDS – NATIONAL TRAILS MANAGEMENT CORRIDOR		
Record #	**Goal/Obj.**	**Decisions**
7012	SD: 1 SD: 2-4 SD: 4.1-4.2 SD: 5 SD: 5.1-5.6	The western portion of the National Trails Management Corridor is located within the South Pass Historical Landscape ACEC and subject to the management decisions contained there.
OVERVIEW OF RECREATION MANAGEMENT AREAS IN THE NATIONAL TRAILS MANAGEMENT CORRIDOR		
7013	SD: 2-4 SD: 4.1-4.2 SD: 5 SD: 5.1-5.2,	Administratively recognize the following trail-related areas as SRMAs and RMZs for the long-term protection of recreation outcomes and settings (Map 39): ● CDNST Destination SRMA (82,802 acres) encompassing the following areas: ○ Alkali Basin RMZ (37,407 acres) ○ Sweetwater Historic Mining District RMZ (45,394 acres) ● National Trails Undeveloped SRMA (92,598 acres) ● NHT Destination SRMA (62,331 acres) encompassing the following areas: ○ National Historic Trails Auto Tour Route RMZ (25,098 acres) ○ Group Reenactment RMZ (37,233 acres)
7014	SD: 2-4 SD: 4.1-4.2, SD: 5 SD: 5.1-5.2	Administratively recognize the following areas as ERMAs where visitor services are focused on limiting recreational-use impacts, ensuring visitor safety, reducing recreational conflicts, and supporting the nature and purpose of the associated Congressionally Designated Trails: ● CDNST ERMA (4,589 acres): Lands within 0.25 mile of the CDNST, from Happy Springs Oil Field east to the Lander Field Office boundary in the Crooks Gap area ● Willow Creek ERMA (33,569 acres): Lands within 0.25 mile on either side of the NHT not encompassed in a SRMA
DETAILED MANAGEMENT OF RECREATION MANAGEMENT AREAS IN THE NATIONAL TRAILS MANAGEMENT CORRIDOR		
CDNST DESTINATION SRMA: ALKALI BASIN RECREATION MANAGEMENT ZONE		
7015	SD: 2 SD: 3 SD: 5 SD: 5.2 SD: 5.3	Sustain or enhance the Alkali Basin RMZ (37,407 acres [Map 39]) for thru-hikers and hunters to engage in horseback riding, hiking, hunting, and mountain biking so that participants in visitor assessments/surveys report a higher than average (mean average of 4.0 on a 5-point scale) of experience and benefit outcomes listed below: ● **Experiences:** Enjoying the sensory experience of a natural landscape, testing endurance, escaping everyday responsibilities, and being isolated and independent. ● **Benefits:** Enhanced awareness and understanding of nature, closer relationship with the natural world, improved opportunity to view wildlife close up, improved mental health, improved physical health, greater retention of distinctive natural landscape features, and enhanced ability for visitors and residents to find areas providing desired recreation experiences and benefits.

7000 SPECIAL DESIGNATIONS (SD) – NATIONAL CONSERVATION LANDS – NATIONAL TRAILS MANAGEMENT CORRIDOR		
Record #	**Goal/Obj.**	**Decisions**
7016	SD: 2 SD: 3 SD: 5 SD: 5.2 SD: 5.3	Create and maintain the following desired future recreation setting qualities in the Alkali Basin RMZ: ● **Physical Recreation Setting:** The CDNST in the area will continue to be on or near motorized routes but at least 0.5 mile from improved roads, though they may be in sight. The natural setting of the area may have modifications that would be noticed but not draw the attention of an observer wandering through the area (VRM Class II). Facilities and structures in support of recreation and other uses will continue to be rare. ● **Social Recreation Setting:** Average encounters per day during peak CDNST trail use season (July through September) will not exceed for three consecutive years, three encounters per day at known campsite locations, and six encounters per day on travel routes. Group size is usually small. ● **Operational Recreation Setting:** Four-wheel drive vehicles, OHVs, dirt bikes, or over-snow vehicles, in addition to nonmotorized mechanized use will continue to be allowed when the trail is on existing or open roads. Motorized vehicles are not allowed on areas where the trail travels cross-country, off existing roads, or where the trail travels along a closed road. Onsite controls and services will continue to be present but subtle. Offsite services and controls will be provided in the minimum amount necessary to reach management objectives.
7017	SD: 2 SD: 3 SD: 5 SD: 5.2 SD: 5.3	Initiate the following recreation decisions to support the identified outcome objective and desired future setting condition: ● Utilize monitoring and evaluation to adjust management techniques and implementation decisions as necessary to reach desired future setting conditions and provide identified recreation opportunities (activities, experiences, and benefits). ● The area will be closed to competitive events. Other Special Recreation Permits will be allowed in this area so long as setting condition and outcome objectives can be maintained. ● Continue to enhance the availability of dependable non-potable water sources for trail hikers. ● Existing offsite and onsite visitor orientation (kiosk, signs, and informational brochures) will be maintained and enhanced. ● Monitor recreation setting condition through onsite patrols during the trail's high-use season of June through September.
CDNST DESTINATION SRMA: SWEETWATER MINING DISTRICT RECREATION MANAGEMENT ZONE		
7018	SD: 2 SD: 3 SD: 5 SD: 5.2 SD: 5.3	Sustain or enhance the Sweetwater Mining District RMZ (45,394 acres) for day travelers and CDNST thru-hikers to engage in cultural site visitation, photography, horseback riding, hiking, and mountain biking so that participants in visitor assessments/surveys report a higher than average (mean average of 4.0 on a 5-point scale) realization of experience and benefit outcomes listed below: ● **Experiences:** Testing your endurance, enjoying the closeness of friends and family, learning more about things here, feeling good about the way our cultural heritage is being protected and developing skills and abilities. ● **Benefits:** Improved capacity for outdoor physical activity, improved mental health, stronger ties with family and friends, greater respect for cultural heritage, increased appreciation of area's cultural heritage, greater opportunity for people with different skills to exercise in the same place, greater household awareness of and appreciation for our cultural heritage, greater protection of area historic structures and archeological sites, enhanced ability for visitors and residents to find areas providing desired recreation experiences and benefits.

7000 SPECIAL DESIGNATIONS (SD) – NATIONAL CONSERVATION LANDS – NATIONAL TRAILS MANAGEMENT CORRIDOR		
Record #	**Goal/Obj.**	**Decisions**
7019	SD: 2 SD: 3 SD: 5 SD: 5.2 SD: 5.3	Create and maintain the following desired future recreation setting qualities in the Sweetwater Mining District RMZ: ● **Physical Recreation Setting:** The CDNST in the area will continue to be on or near motorized routes but at least 0.5 miles from improved roads, though they may be in sight. The natural setting of the area may have modifications that would be noticed but not draw the attention of an observer wandering through the area (VRM Class II). Facilities and structures in support of recreation and other uses will continue to be rare along the CDNST. Additional facilities and structures may be added in areas out of sight or away from the CDNST. ● **Social Recreation Setting:** On the CDNST, usually 7-14 encounters per day will occur off travel routes (e.g., staging areas, campgrounds), and 15-29 encounters per day en route. Usually group size is small to moderate. Encounters will largely increase around developed sites and roads adjacent to the CDNST. ● **Operational Recreation Setting:** Four-wheel drive vehicles, OHVs, dirt bikes, or over-snow vehicles, in addition to nonmotorized mechanized use are allowed in the area. Motorized uses will not be encouraged or facilitated on the CDNST. Motorized vehicles are not allowed off existing roads, on areas where the trail travels cross-country off existing roads, or where the trail travels along a closed road or nonmotorized trail. Onsite controls and services will be present but harmonize with the natural and historic environment.
7020	SD: 2 SD: 3 SD: 5 SD: 5.2 SD: 5.3	Initiate the following recreation decisions to support the identified outcome objective and desired future setting condition: ● Utilize monitoring and evaluation to adjust management techniques and implementation decisions as necessary to reach desired future setting conditions and provide identified recreation opportunities (activities, experiences, and benefits). ● The CDNST through the area will be closed to competitive events. Other Special Recreation Permits will be allowed in this area so long as setting condition and outcome objectives can be maintained. ● Work with the Wind River Back Country Horsemen and other local groups to teach equine Leave No Trace, as well as potentially provide additional horseback facilities and trails in the RMZ. ● Investigate re-routing opportunities of the CDNST near Phelps-Dodge Bridge so thru-hikers do not have to parallel the Atlantic City-Three Forks County Road. ● Develop better onsite visitor orientation so visitors to the South Pass State Park are aware of half-and whole-day CDNST and Volksmarch trail opportunities in the area. ● Monitor recreation setting condition through onsite patrols during the trail's high-use season (June through September). ● Work with partners to provide additional interpretation of the historic buildings and other remnants.
NATIONAL TRAILS UNDEVELOPED SRMA		
7021	SD: 2-4 SD: 4.1-4.2 SD: 5 SD: 5.1-5.3	The National Trails Undeveloped SRMA (92,598 acres) is sustained or enhanced for individuals or small groups of historic trail "rut buffs," CDNST thru-hikers, and hunters to engage in cultural site visitation, driving for pleasure, photography, horseback riding, hunting, and hiking so that participants in visitor assessments/surveys report a higher than average (mean average of 4.0 on a 5-point scale) realization of experience and benefit outcomes listed below: ● **Experiences:** Enjoying exploring alone or in small groups, enjoying nature, reflecting on the historical significance of the trail and the people who traveled it, and enjoying solitude. ● **Benefits:** Better mental health and health maintenance, greater respect and appreciation for the areas' cultural history, greater appreciation of the outdoor environment, closer relationship with the natural world, greater household awareness of and appreciation for the areas' cultural heritage, and increased interest in protection of cultural sites, maintenance of distinctive historical recreation setting, and increased sense of stewardship for the resource.

7000 SPECIAL DESIGNATIONS (SD) – NATIONAL CONSERVATION LANDS – NATIONAL TRAILS MANAGEMENT CORRIDOR

Record #	Goal/Obj.	Decisions
7022	SD: 2-4 SD: 4.1-4.2 SD: 5 SD: 5.1-5.3	Create and maintain the following desired future recreation setting qualities in the National Trails Undeveloped SRMA and Willow Creek ERMA: ● **Physical Recreation Setting:** The majority of the area is on or near four-wheel drive roads, but at least 0.5 mile from all improved roads, though they may be in sight. Natural setting may have subtle modifications that would be noticed but not draw the attention of the casual observer wandering through the area. Trails may exist but do not exceed standard to carry expected use. Facilities and structures are extremely rare. However, nonmotorized trail opportunities will be the focus for visitor services/facilities in this area. ● **Social Recreation Setting:** Usually fewer than 3–6 encounters per day. Usually group sizes are small. ● **Operational Recreation Setting:** Four-wheel drive vehicles, OHVs, dirt bikes, or over-snow vehicles, in addition to nonmotorized mechanized use, are allowed in the area. Motorized use will not be encouraged or facilitated. Motorized vehicles are not allowed off existing roads, on areas where the trail travels cross-country off existing roads, or where the trail travels along a closed road or nonmotorized trail. Onsite controls and services are present but subtle. Use the minimum amount of control necessary to achieve planning objectives.
7023	SD: 2-4 SD: 4.1-4.2 SD: 5 SD: 5.1-5.3	Initiate the following recreation decisions to support the identified outcome objective and desired future setting condition of the National Trails Undeveloped SRMA and Willow Creek ERMA: ● Utilize monitoring and evaluation to adjust management techniques and implementation decisions as necessary to reach desired future setting conditions and provide identified recreation opportunities (activities, experiences, and benefits). ● BLM and partners will review (using BLM's contrast rating system) existing facilities and interpretive exhibits to ensure designs harmonize with the characteristic landscape. Designs out of character with the landscape will be modified so as not to overpower the landscape. ● No new onsite interpretation will be developed on the NHT in this SRMA. Some visitor orientation and interpretation may be developed on the CDNST and other places not within view of, or along the NHT. ● The BLM will not authorize temporary facilities, campsites, or staging/parking areas to support Special Recreation Permits within this zone. Motorized tours will not be authorized in this zone. ● In this zone, the BLM will authorize special recreation permits for trail-oriented, nonmotorized group activities consistent with the outcome objective and recreation setting prescriptions above. ● No competitive events will be authorized in this zone. ● Solicit partnerships and cooperative agreements to monitor outcome attainment and preferences through customer assessments (focus group interviews or visitor studies). ● Monitor recreation setting conditions through onsite patrols during the trail's high-use season of June through September.
NATIONAL HISTORIC TRAILS DESTINATION SRMA: AUTO-TOUR ROUTE RMZ		
7024	SD: 4 SD: 4.1-4.2 SD: 5 SD: 5.1-5.3	Sustain or enhance the Auto Tour Route RMZ (23,456 acres [Map 39]) for highway travelers to engage in historic site visitation/learning, teaching history, photography, and driving for pleasure so that participants in visitor assessments/surveys report a higher than average (mean average of 4.0 on a 5-point scale) realization of the experience and benefit outcomes listed below: ● **Experiences:** Enjoying the closeness of friends and family, learning more about the cultural heritage here, having others nearby who could provide assistance if needed, and sharing Wyoming's cultural heritage with new people. ● **Benefits:** Enjoying easy access to cultural and historic sites, stronger ties with family and friends, increased appreciation of the area's cultural history: greater household awareness of and appreciation of cultural heritage, greater protection of area historic structures and archeological sites, sustainability of the community's cultural heritage, and increased local tax revenue from visitors.

7000 SPECIAL DESIGNATIONS (SD) – NATIONAL CONSERVATION LANDS – NATIONAL TRAILS MANAGEMENT CORRIDOR		
Record #	**Goal/Obj.**	**Decisions**
7025	SD: 4 SD: 4.1-4.2 SD: 5 SD: 5.1-5.3	Create and maintain the following desired future recreation setting qualities in the Auto-Tour Route RMZ: ● **Physical Recreation Setting:** The majority of the area is on or near primary highways, but still within a rural area. The natural setting may have modifications that range from being easily noticed to strongly dominant to observers. These alterations would remain visually subordinate from sensitive travel routes and use areas. Paved, improved, and/or primitive roads/highways as well as nonmotorized trails dominate the landscape. Facilities and structures are readily apparent and may range from scattered to small dominant clusters. ● **Social Recreation Setting:** Contact with others likely; heavy visitation. ● **Operational Recreation Setting:** Ordinary highway auto and truck traffic is characteristic. Controls and services are numerous, obvious, and generally in harmony with the man-made environment.
7026	SD: 4 SD: 4.1-4.2 SD: 5 SD: 5.1-5.3	Initiate the following recreation decisions to support the identified outcome objective and desired future setting condition: ● Utilize monitoring and evaluation to adjust management techniques and implementation decisions as necessary to reach desired future setting conditions and provide identified recreation opportunities (activities, experiences, and benefits). ● Work with partners and other agencies to continue maintenance of existing sites. ● Work with partner entities and the State Historic Preservation Office to sustainably develop areas where new sites are needed to deliver targeted outcomes. ● The BLM and partners will review (using BLM's contrast rating system) existing facilities and interpretive exhibits to ensure designs harmonize with the characteristic landscape. Designs out of character with the landscape will be modified so as not to overpower the landscape. ● Utilize promotion to focus the majority of trail-orientated users into this zone. ● Partner with education institutions or local museums to develop an interpretive plan to ensure existing interpretation is accurate and delivers a consistent message. ● Coordinate with the National Park Service to continue publishing *National Historic Trails Auto Tour Route Interpretive Guide Across Wyoming*. ● Promote utilizing this RMZ with facilities in the Green Mountain ERMA, as well as available amenities in the Fremont County area. ● Solicit partnerships and cooperative agreements to monitor outcome attainment and preferences through customer assessments (focus group interviews or visitor studies) and monitor recreation setting condition through onsite patrols June through September. ● Partner with the BLM National Historic Trails Center and other museums to display to potential visitors the opportunities that are available within the RMZ and similar management zones managed by the BLM Casper Field Office. ● The BLM will focus motorized trail oriented special recreation permits and trail interpretation in this zone. ● Ensure promotion of the area reaches interested user by piggybacking the marketing of the RMZ with the National Park Service marketing for Yellowstone and Grand Teton National Parks. ● Solicit partnerships and cooperative agreements to monitor outcome attainment and preferences through customer assessments (focus group interviews or visitor studies). ● Monitor recreation setting condition through onsite patrols June through September.
NATIONAL HISTORIC TRAILS DESTINATION SRMA: GROUP REENACTMENT RMZ		

7000 SPECIAL DESIGNATIONS (SD) – NATIONAL CONSERVATION LANDS – NATIONAL TRAILS MANAGEMENT CORRIDOR		
Record #	**Goal/Obj.**	**Decisions**
7027	SD: 4 SD: 4.1-4.2 SD: 5 SD: 5.1-5.3	Sustain or enhance the Group Reenactment RMZ (37,241 acres [Map 39]) for organized groups and other trail enthusiasts to engage in cultural site visitation and/or learning, photography, and historic reenactments, so that participants in visitor assessments/surveys report a higher than average (mean average of 4.0 on a 5-point scale) realization of the experience and benefit outcomes listed below: • **Experiences:** Develop personal and spiritual values, reflect on personal values, gaining an experience one can look back on, and teach and learn about history here. • **Benefits:** Increased opportunities for youth, greater spiritual growth, greater appreciation of cultural histories, increased understanding of history, stronger ties with family and friends, greater household awareness and appreciation of our cultural heritage, protection of cultural sites, maintenance of distinctive historical recreation setting, and reduced human impacts such as litter, vegetation trampling, and unplanned trails.

7000 SPECIAL DESIGNATIONS (SD) – NATIONAL CONSERVATION LANDS – NATIONAL TRAILS MANAGEMENT CORRIDOR		
Record #	**Goal/Obj.**	**Decisions**
7028	SD: 4 SD: 4.1-4.2 SD: 5 SD: 5.1-5.3	Create and maintain the following desired future recreation setting qualities in the Group Reenactment RMZ: ● **Physical Recreation Setting:** The majority of this route is on or near four-wheel drive roads, but at least 0.5 mile from all improved roads, though they may be in sight. Natural setting may have subtle modifications that would be noticed, but do not draw the attention of an observer wandering through the area. Primitive motorized routes and nonmotorized trails may exist, facilities and structures are rare but accessible via unimproved routes. ● **Social Recreation Setting:** Average group size and encounters per day are detailed in the 2005 Finding of No Significant Impact/Decision Record for Handcart Trekking. ● **Operational Recreation Setting:** Four-wheel drive vehicles, all-terrain vehicles, dirt bikes, or over-snow vehicles, in addition to nonmotorized mechanized use when the trail is on existing roads. Motorized vehicles are not allowed on Rocky Ridge. Vehicle use on the National Historic Trail in support of Special Recreation Permits will be limited. Onsite controls and services are low and primarily offsite. Utilize the minimum amount of controls necessary to achieve planning objectives.
7029	SD: 4 SD: 4.1-4.2 SD: 5 SD: 5.1-5.3	Initiate the following recreation decisions to support the identified outcome objective and desired future setting condition: ● Utilize monitoring and evaluation to adjust management techniques and implementation decisions as necessary to reach desired future setting conditions and provide identified recreation opportunities (activities, experiences, and benefits). ● Permanently close trail section over Rocky Ridge to motorized use. ● The BLM and partners (State Historic Preservation Office and National Park Service) will review (using BLM's contrast rating system) interpretive exhibits to ensure designs harmonize with the characteristic landscape; designs out of character with the landscape will be modified so as not to overpower the landscape. ● Group use in the area will be in conformance with the authorization in the Decision Record for Handcart Trekking (2005) or subsequent decisions. ● No competitive events will be authorized in this zone. ● Partner with educational institutions or local museum to develop an interpretive plan to ensure existing interpretation is accurate and delivers a consistent message. ● Review all interpretation to ensure site-specific stories are told for all four historic trails. ● Provide offsite interpretation opportunities for visitors physically unable to access Rocky Ridge, such as interpretive panels overlooking Rocky Ridge in close proximity to an improved motorized route. ● Solicit partnerships and cooperative agreements to monitor outcome attainment and preferences through customer assessments, such as focus-group interviews or visitor studies. ● Monitor recreation setting condition through onsite patrols June through September. ● With stakeholder involvement and if additional concerns arise, consider applying Limits of Acceptable Change planning framework to ensure protection of the historic trails. Limits of Acceptable Change focuses on a cycle of designing-implementing-monitoring-evaluating-adjusting actions to respond to future recreation issues to implement the results of monitoring.

Table 2.27. 7000 SPECIAL DESIGNATIONS (SD) – NATIONAL CONSERVATION LANDS – WILDERNESS STUDY AREAS

7000 SPECIAL DESIGNATIONS (SD) – NATIONAL CONSERVATION LANDS – WILDERNESS STUDY AREAS		
Record #	**Goal/Obj.**	**Decisions**
Goal SD: 6 Manage WSAs so as to not impair the suitability of such areas for preservation as wilderness. **Objectives:** **SD: 6.1** Preserve wilderness characteristics in WSAs in accordance with BLM Manual 6330, *Management of Wilderness Study Areas*, until Congress either designates these lands as Wilderness or releases them for other purposes. **SD: 6.2** SRMA Objectives for the Sweetwater Rocks and Sweetwater Canyon WSAs: See the *Recreation* section for specific outcome-focused objectives, recreation setting character conditions, and the administrative, marketing, and monitoring framework.		
7030	SD: 6	Under BLM guidance, the BLM does not have the authority to designate new WSAs nor does BLM have the authority to reverse, repeal, or amend existing WSAs.
7031	SD: 6.1 SD: 6.2	The following eight WSAs are managed in accordance with BLM Manual 6330, *Management of Wilderness Study Areas* (Map 44): ● Sweetwater Rocks Complex: ○ Split Rock (13,964 acres) ○ Lankin Dome (6,347 acres) ○ Miller Spring (6,697 acres) ○ Savage Peak (7,178 acres) ● Sweetwater Canyon (9,135 acres) ● Whiskey Mountain (519 acres) ● Copper Mountain (6,936 acres) ● Dubois Badlands (4,561 acres)
7032	SD: 6.2	In the event Congress releases any of the Lander Field Office WSAs without management direction, the BLM will continue to manage the released area(s) under similar direction as detailed in BLM Manual 6330, *Management of Wilderness Study Areas* until an RMP amendment is adopted providing management direction for the area(s). The amendment process will include updated inventories, recreational user surveys, community workshops, and detailed adjacent land use analysis in order to ensure management of released areas is consistent with the existing plan and meets the future needs of the American public.
7033	SD: 6.1	Grandfathered uses (as defined in BLM Manual 6330, *Management of Wilderness Study Areas*) are allowed on lands under Wilderness review in the manner and degree in which these uses were performed on October 21, 1976, so long as they do not cause unnecessary or undue degradation of the lands.
7034	SD: 6.1	Non-grandfathered uses (as defined in BLM Manual 6330, *Management of Wilderness Study Areas*) are subject to the non-impairment standard as provided in BLM Manual 6330.
7035	SD: 6.1	Manage all WSAs as VRM Class I visual resources (Map 30).

7000 SPECIAL DESIGNATIONS (SD) – NATIONAL CONSERVATION LANDS – WILDERNESS STUDY AREAS		
Record #	**Goal/Obj.**	**Decisions**
7036	SD: 6.1	The following WSAs are closed to motorized travel (Map 44): ● Dubois Badlands ● Copper Mountain ● Whiskey Mountain In the following WSAs motorized travel is limited to designated routes and trails that existed and were identified before or during the inventory phase of the wilderness review. Travel systems and linear features in conflict with wilderness values will be modified (mitigated or closed) through implementation planning (Map 44). ● Sweetwater Rocks Complex: ○ Split Rock ○ Lankin Dome ○ Miller Spring ○ Savage Peak ● Sweetwater Canyon
7037	SD: 6.1	Livestock grazing in all WSAs, including the Sweetwater Canyon WSA, is managed in accordance with BLM Manual 6330, *Management of Wilderness Study Areas*. See the *Recreation* section for decisions associated with the Sweetwater Canyon SRMA.
7038	N/A	Additional allocations, allowable uses, and decisions to support recreation in WSAs can be found in the *Recreation* section.

Table 2.28. 7000 SPECIAL DESIGNATIONS (SD) – WILD AND SCENIC RIVERS

7000 SPECIAL DESIGNATIONS (SD) – WILD AND SCENIC RIVERS		
Record #	**Goal/Obj.**	**Decisions**
Goal SD: 7 Protect outstanding, remarkable values of eligible and suitable WSRs recommended for inclusion in the National Wild and Scenic River System. **Objective**: **SD: 7.1** Maintain the outstandingly remarkable scenic, recreational, and wild values of all segments of waterways found to be eligible and suitable for inclusion in the National Wild and Scenic River System.		
7039	SD: 7.1	Recommend the following waterways as suitable for inclusion in the National Wild and Scenic River System (Map 45) with the tentative classification for each: ● Baldwin Creek Unit: 8.1 miles, tentatively wild and scenic ○ Upper Baldwin Creek Segment: 6.96 miles, tentatively wild and scenic ○ Lower Baldwin Creek Segment: 1.14 miles, tentatively wild ● Sweetwater River Unit: 12.88 miles, tentatively wild ○ Sweetwater River Segment: 8.64 miles, tentatively wild ○ Granite Creek Segment: 1.04 miles, tentatively wild ○ Mormon Creek Segment: 1.08 miles, tentatively wild ○ Willow Creek Segment: 1.32 miles, tentatively wild ○ Strawberry Creek Segment: 0.81 mile, tentatively wild ● Warm Springs Segment 1: 1.3 miles, tentatively recreational and wild
7040	SD 7.1	Manage these waterways to maintain or enhance suitability, including free-flowing values and outstandingly remarkable values. Prohibit any activities that diminish the free-flowing character of the suitable waterway, or outstandingly remarkable values. Prohibit any physical or visual intrusions to the suitable waterway including water impoundments, diversions, or hydroelectric power facilities. Do not authorize stream impoundments, channelization, and/or rip-rapping along BLM shorelines of these waterways.
7041	SD 7.1	Work cooperatively with other land owners and managers to avoid adverse impacts to the waterways. Management of BLM-acquired lands in the 0.25–mile buffer area will be to support ACEC resource objectives.
7042	SD: 7.1	Mineral development in the Baldwin Creek Unit is managed in accordance with the Lander Slope ACEC management. Mineral development in the Sweetwater Canyon WSA is managed under BLM Manual 6330, *Management of Wilderness Study Areas*. Mineral development in the 0.25-mile buffer of the Warm Springs Segment 1 is managed as follows: ● Closed to oil and gas and phosphate leasing, geophysical exploration, and mineral material sales as part of the Dubois area ● Withdrawn from locatable minerals from pre-FLPMA withdrawal
7043	SD: 7.1	Any ground and air operations utilized in fire suppression activities on BLM-administered lands within 0.25 mile on either side of suitable waterways will utilize Minimal Impact Suppression Tactics. Aerially applied fire retardants are not allowed within 300 feet of suitable waterways. Evaluate any fire rehabilitation plans to determine whether they comply with the interim management for the 0.25-mile buffer.
7044	SD: 7.1	Vegetation treatment and manipulation on BLM-administered lands within 0.25 mile on either side of suitable waterways must be consistent with guidance provided for the interim management of wild waterway areas under the Wild and Scenic River Act.
7045	SD: 7.1	Close BLM-administered lands within 0.25 mile of the suitable waterways to commercial timber sales or harvesting. Prohibit cutting or removal of forest products and stand conversion type treatments.

7000 SPECIAL DESIGNATIONS (SD) – WILD AND SCENIC RIVERS		
Record #	**Goal/Obj.**	**Decisions**
7046	SD: 7	To resist invasion by noxious weeds, manage native plant communities and soils within 0.25 mile on either side of eligible waters to maintain an ecologically healthy and vigorous condition. Control noxious weeds and undesirable invasive species using integrated pest management.
7047	SD: 7.1	Manage BLM-administered lands within 0.25 mile of the Baldwin Creek and Sweetwater River Units as VRM Class I and within 0.25 miles of the Warm Springs Segment 1 as VRM Class II.
7048	SD 7.1	BLM-administered lands within 0.25 mile on either side of suitable waterways are closed to land disposal actions unless the disposal would be subject to an easement or other restriction on use that would ensure conformity with the goals and objectives of the waterway management and the disposal would serve important public values.
7049	SD: 7.1	ROW management in the Baldwin Creek Unit is in accordance with the Lander Slope ACEC management. ROW management in the Sweetwater Canyon WSA is in accordance with BLM Manual 6330, *Management of Wilderness Study Areas*. ROW management in the 0.25-mile buffer of Warm Springs Segment 1 is excluded to major ROWs and avoided for minor ROWs.
7050	SD: 7.1	Close the Baldwin Creek Unit to motorized travel. Motorized travel in the Sweetwater River Unit and Warm Springs Segment 1 will be limited to existing roads and trails until travel management planning occurs.
7051	SD: 7.1	Manage livestock grazing in the 0.25-mile buffer area of the suitable waterways to support the outstandingly remarkable values. Allow construction of new range improvements that protect or enhance outstandingly remarkable values and do not result in adverse impacts to the wild classification.
7052	SD: 7.1	Recreation management for the Baldwin Creek and Sweetwater River Units is identified in the *Recreation* section. The Warm Springs Segment 1 does not have specific recreation management; therefore, standard recreation management will apply, with a focus on maintaining the outstandingly remarkable values.
7053	SD: 7.1	Manage waterways considered eligible (Map 45), but not identified as suitable, to improve characteristics which would facilitate future suitability classification.
7054	SD: 7.1	During rangeland health assessments and proper functioning condition assessments, collect data regarding free-flowing waterways to be used in determining changes in eligibility and suitability.

Table 2.29. 7000 SPECIAL DESIGNATIONS (SD) – AREAS OF CRITICAL ENVIRONMENTAL CONCERN

7000 SPECIAL DESIGNATIONS (SD) – AREAS OF CRITICAL ENVIRONMENTAL CONCERN		
Record #	**Goal/Obj.**	**Decisions**
Goal SD: 8 Maintain, protect and enhance the relevant and important values for each ACEC and provide opportunities for other compatible uses where appropriate.		
7055	SD: 8	Designate the following areas as ACECs (Map 46): ● Lander Slope (25,065 acres) ● Red Canyon (15,109 acres) ● Whiskey Mountain (8,774 acres) ● Beaver Rim (6,421 acres) ● East Fork (7,745 acres), including 342 acres formerly contained in the Dubois Badlands ACEC (BLM 1987) ● Green Mountain (21,389 acres) ● South Pass Historical Landscape (124,124 acres), including lands contained in the National Trails Management Corridor ● Twin Creek (35,064 acres) The following areas are not designated as ACECs. Management to protect the identified relevant and important characteristics is found in the appropriate program, as described below. ● The WSA portion that had been part of the Dubois Badlands ACEC (BLM 1987), see the *Wilderness Study Areas* section. ● Castle Gardens, see the *Cultural Resources* section. ● Cedar Ridge, see the *Cultural Resources* section. ● Sweetwater Rocks, see the *Sweetwater Rocks Undeveloped SRMA* section. ● CDNST, see the *Congressionally Designated Trails* section. ● RHT&EHs, see the *Cultural Resources* section. ● NHTs outside the South Pass Historical Landscape ACEC, see the *Congressionally Designated Trails* section for management within the National Trails Management Corridor. ● Government Draw/Upper Sweetwater Sage-Grouse area, see the *Wildlife* and *Twin Creek ACEC* sections. ● Beaver Rim outside of the ACEC, see the *Beaver Rim MLP* section. ● Green Mountain outside of the ACEC, see the *Wildlife* section.
7056	SD: 8	Develop and implement fire and fuels management in consideration of the resource(s) for which the ACEC is designated with consideration of the wildland urban interface, if present.
7057	SD: 8	Retain lands within the ACECs for long-term management unless the disposal would benefit the goals and objectives of the ACEC. Pursue land acquisition within or near the ACEC to benefit the goals and objectives of the ACEC. Manage the federal mineral estate on split-estate lands located within the boundaries of an ACEC consistently with the management of BLM-administered surface lands.

Table 2.30. 7000 SPECIAL DESIGNATIONS (SD) – THE LANDER SLOPE ACEC

7000 SPECIAL DESIGNATIONS (SD) – THE LANDER SLOPE ACEC		
Record #	**Goal/Obj.**	**Decisions**
Goal SD: 9 Manage the Lander Slope ACEC with the following objectives: **Objectives:** **SD: 9.1** Maintain adequate winter forage for elk and mule deer so as to support WGFD herd objectives. **SD: 9.2** Maintain and improve habitat for elk and mule deer and, where appropriate, bighorn sheep so as to support WGFD herd objectives. **SD: 9.3** Maintain and improve the views of the Lander Slope so that no action has more than a “weak contrast” with the characteristic landscape. **SD: 9.4** Maintain or improve the water quality in the watershed of the Middle Fork of the Popo Agie River. **SD: 9.5** Route densities and locations will maintain or enhance the quality of the scenic and wildlife values.		
7058	SD: 9	Designate BLM-administered lands in the Lander Slope area as a 25,065-acre ACEC (Map 46).
7059	SD: 9	Mineral development in the ACEC is managed as follows: ● Open to oil and gas leasing subject to NSO stipulations ● Closed to geophysical exploration ● Closed to phosphate leasing ● Recommend for withdrawal to locatable mineral entry ● Closed to mineral materials disposal
7060	SD: 9	Manage plant communities for rangeland health and to protect important wildlife habitat primarily for elk and mule deer and, where appropriate, bighorn sheep.
7061	SD: 9	Manage the ACEC as VRM Class II.
7062	SD: 9	ROW management in the ACEC is excluded to major ROWs and avoided for minor ROWs.
7063	SD: 9	Travel and road density in the ACEC are managed to support ACEC objectives. See the *Comprehensive Trails and Travel Management* section for specific decisions.
7064	SD: 9	The ACEC is open to livestock grazing and managed to meet the goals and objectives for the ACEC.
7065	SD: 9	Authorize range improvement projects only if consistent with ACEC values.
7066	SD: 9	Management of BLM-acquired lands in the ACEC including livestock grazing will be to support ACEC objectives.

Table 2.31. 7000 SPECIAL DESIGNATIONS (SD) – RED CANYON ACEC

7000 SPECIAL DESIGNATIONS (SD) – RED CANYON ACEC		
Record #	**Goal/Obj.**	**Decisions**
Goal SD: 10 Manage the Red Canyon ACEC with the following objectives: **Objectives:** **SD: 10.1** Maintain adequate winter forage for elk, mule deer, and moose so as to support WGFD herd objectives. **SD: 10.2** Maintain and improve winter habitat for elk, mule deer, moose, and elk calving habitat. **SD: 10.3** Maintain the views of Red Canyon from Highway 28 and within the Canyon so that no proposed action has more than a weak contrast with the characteristic landscape. **SD: 10.4** Route densities and locations will maintain or enhance the scenic and wildlife values. **SD: 10.5** Maintain and improve the habitat for sensitive plant species.		
7067	SD: 10	Designate BLM-administered lands in the Red Canyon area as a 15,109-acre ACEC (Map 46).
7068	SD: 10	Mineral development in the ACEC is managed as follows: ● Open to oil and gas leasing subject to NSO stipulations ● Closed to geophysical exploration ● Closed to phosphate leasing ● Recommend for withdrawal to locatable mineral entry ● Closed to mineral material sales
7069	SD: 10	On a case-by-case basis, undertake treatments for invasive species to protect wildlife and sensitive plant species habitat.
7070	SD: 10	Close the ACEC to human presence from December 1 through April 30 and to motorized vehicle use from December 1 through June 15, in conformance with WGFD management.
7071	SD: 10	Manage plant communities for rangeland health and to protect important wildlife habitat primarily for elk, mule deer, and moose.
7072	SD: 10	Manage the National Natural Landmark portion of the Red Canyon ACEC (Map 46) as VRM Class I. Manage the remainder of the ACEC as VRM Class II.
7073	SD: 10	ROW management in the ACEC is excluded to major ROWs and avoided for minor ROWs.
7074	SD: 10	Travel and road density in the ACEC are managed to support ACEC objectives. See the *Comprehensive Trails and Travel Management* section for specific decisions.
7075	SD: 10	The ACEC is open to livestock grazing and managed to meet the goals and objectives for the ACEC. Maintain the 500 AUM forage allocation for elk.
7076	SD: 10	Authorize range improvement projects only if consistent with ACEC values.
7077	SD: 10	Management of BLM-acquired lands in the ACEC will be to support ACEC resource objectives..

Table 2.32. 7000 SPECIAL DESIGNATIONS (SD) – WHISKEY MOUNTAIN ACEC

7000 SPECIAL DESIGNATIONS (SD) – WHISKEY MOUNTAIN ACEC		
Record #	**Goal/Obj.**	**Decisions**
Goal SD: 11 Manage the Whiskey Mountain ACEC with the following objectives: **Objectives:** **SD: 11.1** Maintain adequate winter forage for bighorn sheep so as to support WGFD herd objectives. **SD: 11.2** Maintain and improve winter bighorn sheep habitat. **SD: 11.3** Work cooperatively with the WGFD and the U.S. Forest Service to support joint management objectives. **SD: 11.4** Route densities and locations will maintain or enhance the scenic and wildlife values.		
7078	SD: 11	Designate BLM-administered lands in the Whiskey Mountain area as an 8,774-acre ACEC (Map 46).
7079	SD: 11	Mineral development in the ACEC is as follows: ● Closed to oil and gas leasing ● Closed to geophysical exploration ● Closed to phosphate leasing ● Pursue extensions of the existing mineral withdrawals before their expiration ● Closed to mineral material sales
7080	SD: 11	Manage the Whiskey Mountain WSA as VRM Class I. Manage the portions of the Whiskey Mountain ACEC outside of the WSA as VRM Class II.
7081	SD: 11	ROW management in the ACEC is excluded to major ROWs and avoided for minor ROWs.
7082	SD: 11	Travel and road density in the ACEC are managed to support ACEC objectives. See the *Comprehensive Trails and Travel Management* section for specific decisions.
7083	SD: 11	Part of the ACEC (2,620 acres) is open to livestock grazing (Map 46); the CM Whiskey Basin Pasture is closed to livestock grazing.
7084	SD: 11	Authorize range improvement projects only if consistent with ACEC values.
7085	SD: 11	Management of BLM-acquired lands in the ACEC will be to support ACEC resource objectives.

Table 2.33. 7000 SPECIAL DESIGNATIONS (SD) – EAST FORK ACEC

<table>
<tr><th colspan="3">7000 SPECIAL DESIGNATIONS (SD) – EAST FORK ACEC</th></tr>
<tr><th>Record #</th><th>Goal/Obj.</th><th>Decisions</th></tr>
<tr><td colspan="3">Goal SD: 12 Manage the East Fork ACEC with the following objectives:
Objectives:
SD: 12.1 Maintain adequate winter forage for elk and bighorn sheep so as to support WGFD herd objectives.
SD: 12.2 Maintain winter habitat for elk and bighorn sheep.
SD: 12.3 Work cooperatively with the WGFD to support joint management objectives.
SD: 12.4 Road densities and locations will maintain scenic and wildlife values.</td></tr>
<tr><td>7086</td><td>SD: 12</td><td>Designate BLM-administered lands in the East Fork area as a 7,745-acre ACEC, which includes 342 acres that had been part of the Dubois Badlands ACEC designated in the 1987 RMP (Map 46).</td></tr>
<tr><td>7087</td><td>SD: 12</td><td>Mineral development in the expanded ACEC is managed as follows:
● Closed to oil and gas leasing
● Closed to geophysical exploration
● Closed to phosphate leasing
● Locatable mineral entry: 1,290 acres are withdrawn by pre-FLPMA actions; 6,455 acres are either proposed for withdrawal or proposed for renewal of existing withdrawals
● Closed to mineral material sales</td></tr>
<tr><td>7088</td><td>SD: 12</td><td>Manage the East Fork ACEC as VRM Class II.</td></tr>
<tr><td>7089</td><td>SD: 12</td><td>ROW management in the ACEC is excluded to major ROWs and avoided for minor ROWs.</td></tr>
<tr><td>7090</td><td>SD: 12</td><td>Travel and road density in the ACEC are managed to support ACEC objectives. See the <i>Comprehensive Trails and Travel Management</i> section for specific decisions.</td></tr>
<tr><td>7091</td><td>SD: 12</td><td>The ACEC is closed to livestock grazing, except for 641 acres in the Bitteroot Allotment, which are open for livestock grazing.</td></tr>
<tr><td>7092</td><td>SD: 12</td><td>Authorize range improvement projects only if consistent with ACEC values.</td></tr>
<tr><td>7093</td><td>SD: 12</td><td>Management of BLM-acquired lands in the ACEC will be to support ACEC resource objectives.</td></tr>
</table>

Table 2.34. 7000 SPECIAL DESIGNATIONS (SD) – BEAVER RIM ACEC

7000 SPECIAL DESIGNATIONS (SD) – BEAVER RIM ACEC		
Record #	**Goal/Obj.**	**Decisions**
Goal SD: 13 Manage the Beaver Rim ACEC with the following objectives: **Objectives:** **SD: 13.1** Maintain wildlife habitat with an emphasis on raptors. **SD: 13.2** Maintain the views of Beaver Rim from Highway 287, views from the areas below the Rim, and the views looking out from the Rim. **SD: 13.3** Maintain the habitat for sensitive plant species and unique plant communities. **SD: 13.4** Protect significant Traditional Cultural Properties associated with the Rim. **SD: 13.5** Protect the geological resources of the Rim. **SD: 13.6** Work cooperatively to improve the educational and recreational values of the Rim.		
7094	SD: 13	Designate BLM-administered lands in Beaver Rim as a 6,421-acre ACEC (Map 46).
7095	SD: 13	Mineral development in the ACEC is managed as follows: ● Open to oil and gas leasing subject to NSO stipulations ● Closed to geophysical exploration ● Closed to solid mineral leasing ● Open with a Plan of Operations to locatable minerals ● Closed to mineral material disposal
7096	SD: 13	Manage the plant community to provide wildlife habitat and to protect sensitive plant species and unique plant communities.
7097	SD: 13	Work cooperatively with partners to develop and implement aggressive plans to control and eradicate invasive species.
7098	SD: 13	Manage the ACEC as VRM Class II.
7099	SD: 13	ROW management in the ACEC is excluded to major ROWs and avoided for minor ROWs.
7100	SD: 13	Travel and road density in the ACEC are managed to support ACEC objectives. See the *Comprehensive Trails and Travel Management* section for specific decisions.
7101	SD: 13	Beaver Rim is open to livestock grazing and managed to meet the goals and objectives for the ACEC.
7102	SD: 13	Authorize range improvement projects only if consistent with ACEC values.
7103	SD: 13	Management of BLM-acquired lands in the ACEC will be to support ACEC resource objectives.
7104	SD: 13	Cooperate with the State of Wyoming and others to develop educational signage, driving loops, and kiosks regarding unique plant communities, unique geology, and visual resources.

Table 2.35. 7000 SPECIAL DESIGNATIONS (SD) – GREEN MOUNTAIN ACEC

<table>
<tr><th colspan="3">7000 SPECIAL DESIGNATIONS (SD) – GREEN MOUNTAIN ACEC</th></tr>
<tr><th>Record #</th><th>Goal/Obj.</th><th>Decisions</th></tr>
<tr><td colspan="3">**Goal SD: 14** Manage the Green Mountain ACEC with the following objectives:
Objectives:
SD: 14.1 Maintain adequate forage for elk to support WGFD herd objectives.
SD: 14.2 Maintain or enhance habitat for elk.
SD: 14.3 Road densities and locations will maintain scenic and wildlife values.
SD: 14.4 Protect the historical integrity of Sparhawk Cabin.</td></tr>
<tr><td>7105</td><td>SD: 14</td><td>Designate BLM-administered lands in the Green Mountain area as a 21,389-acre ACEC (Map 46).</td></tr>
<tr><td>7106</td><td>SD: 14</td><td>Mineral development in the ACEC is managed as follows:
● Open to oil and gas leasing subject to NSO stipulations
● Closed to geophysical exploration
● Closed to solid mineral leasing
● Open with a Plan of Operations to locatable minerals
● Closed to mineral material disposals</td></tr>
<tr><td>7107</td><td>SD: 14</td><td>The forested areas are available for commercial timber sales and managed to promote elk habitat.</td></tr>
<tr><td>7108</td><td>SD: 14</td><td>The ACEC is managed as VRM Class II.</td></tr>
<tr><td>7109</td><td>SD: 14</td><td>ROW management in the ACEC is excluded to major ROWs and avoided for minor ROWs.</td></tr>
<tr><td>7110</td><td>SD: 14</td><td>Travel management for the ACEC is found in the *Comprehensive Trails and Travel Management* section.</td></tr>
<tr><td>7111</td><td>SD: 14</td><td>Travel and road density in the ACEC are managed to support ACEC objectives. See the *Comprehensive Trails and Travel Management* section for specific decisions.</td></tr>
<tr><td>7112</td><td>SD: 14</td><td>The ACEC is open to livestock grazing and managed to meet the goals and objectives for the ACEC.</td></tr>
<tr><td>7113</td><td>SD: 14</td><td>Authorize range improvement projects only if consistent with ACEC values.</td></tr>
<tr><td>7114</td><td>SD: 14</td><td>Management of BLM-acquired lands in the ACEC will be to support ACEC resource objectives.</td></tr>
</table>

Table 2.36. 7000 SPECIAL DESIGNATIONS (SD) – SOUTH PASS HISTORICAL LANDSCAPE ACEC

<table>
<tr><th colspan="3">7000 SPECIAL DESIGNATIONS (SD) – SOUTH PASS HISTORICAL LANDSCAPE ACEC</th></tr>
<tr><th>Record #</th><th>Goal/Obj.</th><th>Decisions</th></tr>
<tr><td colspan="3">Goal SD: 15 Manage the South Pass Historical Landscape ACEC, including the historic sites of Miner’s Delight and South Pass City, with the following objectives:
Objectives:
SD: 15.1 Protect significant historic sites and the intact settings around them.
SD: 15.2 Work cooperatively with the State of Wyoming and others to reduce the hazards from abandoned mine lands.
SD: 15.3 Work cooperatively with the State of Wyoming and others to maintain and enhance the recreational use of the area.
Goal SD: 16 Provide opportunities to experience and reflect upon the wide variety of scenic, cultural, historic, and physiographic setting characteristics of the land.
Goal SD: 17 Provide for the outdoor recreation needs of an expanding population and promote the preservation of public access and enjoyment of the open air, outdoor areas, and historic resources of the nation.</td></tr>
<tr><td>7115</td><td>SD: 15</td><td>Designate the 124,124-acre South Pass Historical Landscape ACEC, which includes the 1987 South Pass Historic Mining Area (12,576 acres) (Map 46).</td></tr>
<tr><td>7116</td><td>SD: 15</td><td>Conform to local zoning ordinances that apply to the area around South Pass City.</td></tr>
<tr><td>7117</td><td>SD: 15</td><td>Mineral development in the South Pass Historical Landscape ACEC is managed as follows:
● Open to oil and gas leasing subject to NSO stipulations
● Closed to geophysical exploration
● Closed to solid mineral leasing
● Open to locatable mineral entry with a Plan of Operations; portions of the ACEC will be recommended for withdrawal to locatable mineral entry for the benefit of wildlife, viewsheds, and cultural resources (see Decision Record 4045).
● Closed to mineral material disposals</td></tr>
<tr><td>7118</td><td>SD: 15</td><td>When possible, implement fire and fuels management to reduce dangers from fire in the wildland urban interface.</td></tr>
<tr><td>7119</td><td>SD: 15</td><td>Develop a cultural resource protection and management plan for the South Pass Historical Landscape ACEC, including stabilization, recreation, stewardship, and public education plans for Miner’s Delight, Lemley Mill, and other historic structures administered by BLM.</td></tr>
<tr><td>7120</td><td>SD: 15</td><td>Manage the South Pass Historical Landscape ACEC as VRM Class II (Map 30).
On a case-by-case basis, remove or reclaim visually unnecessary or intrusive existing roads, facilities, and ROWs not necessary to attain ACEC management objectives.</td></tr>
<tr><td>7121</td><td>SD: 15</td><td>ROW management in the ACEC is excluded to major ROWs and avoided for minor ROWs.</td></tr>
<tr><td>7122</td><td>SD: 15</td><td>Travel and road density in the ACEC are managed to support ACEC objectives. See the <i>Comprehensive Trails and Travel Management</i> section for specific decisions.</td></tr>
</table>

7000 SPECIAL DESIGNATIONS (SD) – SOUTH PASS HISTORICAL LANDSCAPE ACEC

Record #	Goal/Obj.	Decisions
7123	SD: 15	The area is open to livestock grazing. Fence off historic sites that are adversely impacted by livestock grazing. Authorize range improvement projects only if consistent with ACEC values.
7124	SD: 16 SD: 17	Management of BLM-acquired lands in the ACEC will be to support ACEC resource objectives.

Table 2.37. 7000 SPECIAL DESIGNATIONS (SD) – TWIN CREEK ACEC

7000 SPECIAL DESIGNATIONS (SD) – TWIN CREEK ACEC		
Record #	**Goal/Obj.**	**Decisions**
Goal SD: 18 Manage the Twin Creek ACEC with the following objectives: **Objectives:** **SD: 18.1** Maintain and improve wildlife habitat. **SD: 18.2** Consider wildlife migration patterns in permitting activities on BLM-administered land. **SD: 18.3** Maintain visual resource values, including the views of Beaver Rim and the Twin Creek ACEC from Highway 287, views looking out from the Rim, views looking east from the Red Canyon highway overlook, and other key observation points. **SD: 18.4** Protect and enhance the setting for cultural resources. **SD: 18.5** Route densities and locations will maintain or enhance wildlife habitat and migration corridors, visual resources, and recreational use of the area.		
7125	SD: 18	Designate 35,064 acres in the Hudson to Atlantic City area as the Twin Creek ACEC (Map 46).
7126	SD: 18	Mineral development in the Twin Creek ACEC is as follows: ● Open to oil and gas leasing subject to NSO stipulations ● Closed to geophysical exploration ● Closed to solid mineral leasing ● Recommend for withdrawal to locatable mineral entry; conduct validity exams as staffing allows; evaluate opportunities, including working with partners to retire claims to protect resource values; and encourage retiring of valid claims for offsite mitigation of surface disturbance in important wildlife habitat, migration corridors, and the associated landscape of key visual resources observation points and scenic areas ● Closed to new mineral material disposals
7127	SD: 18	Limit vegetation treatments to those that improve and enhance sagebrush steppe habitat, emphasizing appropriate line and shape to meet visual resource objectives. See the *Special Status Species* section for vegetation treatment in Core Area and important greater sage-grouse habitat.
7128	SD: 18	Manage the Twin Creek ACEC as VRM Class II.
7129	SD: 18	ROW management in the ACEC is avoided for major and minor ROWs.
7130	SD: 18	Travel management for the area is provided in the *Comprehensive Trails and Travel Management* section.
7131	SD: 18	As opportunities arise, actively pursue opportunities to reclaim unnecessary roads, trails, and ROWs to improve wildlife habitat and migration corridors and viewshed.
7132	SD: 18	Authorize range improvement projects only if consistent with ACEC values.
7133	SD: 18	The area is open to livestock grazing and managed to maintain or enhance sagebrush steppe. (See the *Vegetation* and *Livestock Grazing Management* sections for additional management for greater sage-grouse habitat objectives.)
7134	SD: 18	Management of BLM-acquired lands in the ACEC will be to support ACEC resource objectives.

Table 2.38. 8000 SOCIOECONOMIC RESOURCES (SR) and HEALTH AND SAFETY

<table>
<tr><th colspan="3">8000 SOCIOECONOMIC RESOURCES (SR) and HEALTH AND SAFETY</th></tr>
<tr><th>Record #</th><th>Goal/Obj.</th><th>Decisions</th></tr>
<tr><td colspan="3">Goal SR: 1 Provide sustainable economic development opportunities for a diversity of resources, including energy, grazing and other agricultural activities, recreation, wildlife, fisheries, and tourism.

Objective:

SR: 1.1 Provide resources and necessary access, consistent with multiple and sustainable use, for economic, cultural, and social viability at the national, regional, and local levels.

Goal SR: 2 Consider local and regional economic development and land use plans in BLM decision making. Provide opportunities for economic and social sustainability at the national, regional, and local levels.

Objective:

SR: 2.1 Consider the impact of BLM decisions on community health, welfare, infrastructure, services, housing, employment, custom, and culture.

Goal SR: 3 Respect, recognize, and support public health and safety needs.

Objectives:

SR: 3.1 Reduce potential threats to public health and safety on BLM-administered lands.

SR: 3.2 On a case-by-case basis, permit commercial use of BLM-administered lands with a requirement to submit a safety plan prior to use of the area.

SR: 3.3 Reduce or minimize risk to humans and the environment from hazardous materials on BLM-administered lands, where possible.

Goal SR: 4 Reduce risk to health and safety from geologic hazards on BLM-administered lands within the planning area.

Objectives:

SR: 4.1 Avoid authorizing activities on geologic hazards, where possible.

SR: 4.2 Inventory, assess, and manage geologic hazards on BLM-administered lands.

SR: 4.3 Reduce or eliminate hazards from abandoned mines on BLM-administered lands, where possible.</td></tr>
<tr><td>8001</td><td>SR: 2</td><td>Consider local county and community plans regarding socioeconomic conditions during the decision-making process.</td></tr>
</table>

8000 SOCIOECONOMIC RESOURCES (SR) and HEALTH AND SAFETY		
Record #	**Goal/Obj.**	**Decisions**
8002	SR: 3	Manage hazardous materials to reduce health and safety risks to the public, to restore contaminated lands, and to carry out emergency response activities, per appropriate laws, policies, and regulations.
8003	SR: 3	In emergency situations, protect the health and safety of the public first and stabilize the situation with regard to the BLM's responsibilities and decision-making authority second.
8004	SR: 2.1	Use partners to effectively leverage funding and facilitate abandoned mine lands projects. Prioritize such projects with greater weight given to national evaluation criteria than to risk-based criteria.
8005	SR: 4.3	Cooperate with the State of Wyoming on its abandoned mine lands program.
8006	SR: 4.3	Identify locations of abandoned mine lands projects in the planning area and, working with the State of Wyoming, erect warning fencing and signs as funding allows.
8007	SR: 3.1 SR: 3.3 SR: 4.2-4.3	Reclaim abandoned mine lands to productive uses including, but not limited to, grazing, recreation, fish and wildlife habitat, and preservation of historical/cultural resources. Monitor success of abandoned mine lands reclamation projects and maintain reclamation and shaft/adit closures where needed.
8008	SR: 3.3	Bond amounts for uranium and other surface-disturbing and disruptive activities will be adequate to ensure reclamation of project areas to prevent any potential impacts to the health and safety of the public.
8009	SR: 3.2	Require that all new major ROWs, pipelines, and trenches across roads be closed as soon as possible to reduce hazards to the public, livestock, and wildlife after initial surface disturbance.
8010	SR: 3.2	Require pipeline gates with soft plugs every 0.25 mile along an open trench.
8011	SR: 3.1 SR: 3.2	Prohibit channel-disturbing activities on Rock Creek and Willow Creek in the Upper Sweetwater river drainage to avoid the mobilization of mercury.
8012	SR: 3.1 SR: 3.2	Comply with Onshore Oil and Gas Order #6 (43 CFR 3160) for drilling operations conducted in areas which are known to or could reasonably be expected to contain hydrogen sulfide.
8013	SR: 2.1	Analyze impacts on socioeconomic resources from the implementation of projects in the planning area through the NEPA process.
8014	SR: 2.1	Consider paced development options for mineral and energy development projects in the planning area to avoid adverse impacts to socioeconomic conditions.
8015	SR: 3.1 SR: 4.1	Consider changes to landslide potential when authorizing activities.

Abbreviations used in the Decision Tables

ACEC	Area of Critical Environmental Concern
AUM	Animal Unit Month
BLM	Bureau of Land Management
BMP	Best Management Practice
CDNST	Continental Divide National Scenic Trail
CFR	Code of Federal Regulations
CSU	Controlled Surface Use
DDA	Designated Development Area
DEQ	Department of Environmental Quality
EA	Environmental Assessment
EIS	Environmental Impact Statement
ERMA	Extensive Recreation Management Area
ESA	Endangered Species Act
FLPMA	Federal Land Policy and Management Act
FR	Federal Register
kV	kilovolt
MLP	Master Leasing Plan
N/A	Not Applicable
NEPA	National Environmental Policy Act
NHT	National Historic Trail
NRCS	Natural Resources Conservation Service
NSO	No Surface Occupancy
OHV	Off-Highway Vehicle
RHT&EH	Regional Historic Trails and Early Highways
RMP	Resource Management Plan
RMZ	Recreation Management Zone
ROD	Record of Decision
ROW	Right-Of-Way
SRMA	Special Recreation Management Area
USFWS	United States Fish and Wildlife Service
VRM	Visual Resource Management
WGFD	Wyoming Game and Fish Department
WSA	Wilderness Study Area
WSR	Wild and Scenic River

2.4. Plan Implementation Process

The Approved RMP will be implemented as funding and workforce allow. Most of the land use plan decisions are effective upon approval of this document. However, some decisions will take a number of years to implement on the ground. Implementation monitoring will track which decisions have been implemented and when. Within 2 months of the signing of the ROD and Approved RMP, the BLM will begin the implementation process.

The implementation strategy will include an annual coordination meeting between BLM and cooperating agencies involved in revising the RMP. The annual coordination meeting will include an update on implementation of the plan, foreseeable activities for the upcoming year, and opportunities for continued collaboration with the RMP cooperators. Additional coordination meetings could be held as needed.

Several important implementation issues will be addressed as soon as possible. Those that have been identified as BLM priorities are land exchanges, travel management planning in greater sage-grouse Core Area, the next steps for recommended locatable mineral withdrawals, and identification of potential mitigation sites and measures as identified in Washington Office Instruction Memorandum 2013–142.

2.4.1. Public Involvement

Some of the decisions contained in this document will require preparation of detailed, project-level NEPA analyses prior to implementation. Tribal consultation and public involvement opportunities, including further protest or appeal opportunities, could be provided. Travel management implementation will require extensive input, for example.

These priorities could change following public and cooperating agency and other stakeholder consultation. All are dependent upon funding. The BLM has started the process by applying for and receiving funding to collect data and attributes regarding roads in important greater sage-grouse habitat which will facilitate both greater sage-grouse adaptive management and travel management implementation.

2.4.2. Operation and Maintenance Actions

Projects and maintenance of existing and newly constructed facilities will occur; however, the level of maintenance could vary based on annual funding. Normally, routine operation and maintenance actions are categorically excluded from NEPA analysis. Such activities could include, but are not limited to, routine maintenance of existing roads, ditches, culverts, water control structures, recreation facilities, reservoirs, wells, pipelines, waterholes, fences, cattleguards, seedings, fish and wildlife structures, and signs. These types of actions are part of implementation of the RMP and should not require further analysis to implement. However, actions could be subject to timing limitations to protect wildlife or area seasonal closures.

2.4.3. Monitoring

In accordance with 43 CFR 1610.4-9, the BLM requires that land use plans establish intervals and standards for monitoring, based on the sensitivity of the resource decisions. Land use plan monitoring is the process of tracking the implementation of land use plan decisions (implementation monitoring) and collecting data/information necessary to evaluate the effectiveness of land use plan decisions (effectiveness monitoring).

Monitoring the Approved RMP involves tracking the implementation and effectiveness of land use plan decisions identified in Table 2.1, “Management Goals Common to All Resources” (p. 34) through Table 2.38, “8000 SOCIOECONOMIC RESOURCES (SR) and HEALTH AND SAFETY” (p. 140) in Section 2.3, “Approved Resource Management Plan” (p. 33). Implementation monitoring tracks the completion of land use plan decisions, whereas effectiveness monitoring helps determine whether completion of land use plan decisions achieves anticipated desired outcomes. If implementation of land use plans does not achieve anticipated desired outcomes, adaptive management might be necessary.

For purposes of clarity, a specific monitoring plan is attached as Appendix N (p. 357). The Monitoring and Evaluation Plan provides additional guidance on establishing the implementation process. The inclusion of the Monitoring and Evaluation Plan into this ROD does not make substantial changes to the proposed action (40 CFR 1502.9(c)(1)(i)) nor does it add significant new circumstances or information relevant to environmental concerns bearing on the proposed action or its effects (40 CFR 1502.9(c)(1)(ii)). A monitoring and evaluation plan identifies a process for implementation and has no bearing on the decisions being made.

A guiding principle in the BLM National Sage-grouse Conservation Strategy (BLM 2004a) is that “the Bureau is committed to sage-grouse and sagebrush conservation and will continue to adjust and adapt our National Sage-grouse Strategy as new information, science and monitoring results evaluate effectiveness over time.” In keeping with the Western Association of Fish and Wildlife Agencies Sage-grouse Comprehensive Conservation Strategy (Stiver et al. 2006) and the Greater Sage-grouse Conservation Objectives: Final Report (USFWS 2013), the BLM will monitor implementation and effectiveness of conservation measures in greater sage-grouse habitats. The Monitoring and Evaluation Plan details the four scales at which greater sage-grouse will be monitored from range-wide to fine-scale monitoring.

For greater sage-grouse, these types of monitoring are also described in the criteria found in the Policy for Evaluation of Conservation Efforts When Making Listing Decisions (68 Federal Register 15100, March 28, 2003). One of the Policy for Evaluation of Conservation Efforts criteria evaluates whether provisions for monitoring and reporting progress on implementation (based on compliance with the implementation schedule) and effectiveness (based on evaluation of quantifiable parameters) of the conservation effort are provided.

2.5. Plan Evaluation

Evaluation is a process in which the plan and monitoring data are reviewed to determine if management goals and objectives are being met, determine if management direction is sound, and indicate trends toward goals or the need for adaptive management. Land use plan evaluations determine if decisions are being implemented, whether mitigation measures are satisfactory, whether there are important changes in the related plans of other entities, whether there is new data of importance to the plan, and if decisions should be changed through amendment or revision. Monitoring data gathered over time is examined and used to draw conclusions on whether decisions are meeting stated objectives, and if not, why. Conclusions are then used to make recommendations on whether to continue current management or to identify what changes need to be made in management practices to meet RMP objectives.

The BLM will use land use plan evaluations to determine if the decisions in the RMP, supported by the accompanying NEPA analysis, are still valid in light of new information and monitoring data. The RMP will generally be evaluated every five years, unless unexpected actions, new information, or important changes in other plans, legislation, or litigation triggers an evaluation. Evaluations will follow the protocols established by the BLM Land Use Planning Handbook (H-1601-1) and 43 CFR 1610.4-9 or other appropriate regulations or guidance in effect at the time the evaluation is initiated.

The plan evaluations will consider the effectiveness of management. An important area for plan evaluation arises from the BLM national greater sage-grouse conservation efforts. The Wyoming BLM typically manages the public lands to meet the State of Wyoming's wildlife population objectives. The current population objective is to maintain at least 67 percent of the 2005 – 2008 Greater Sage-Grouse Core Area Population in the State of Wyoming.

The Wyoming BLM will coordinate with the State of Wyoming in implementation planning to develop a statewide adaptive management plan for greater sage-grouse and a framework to evaluate causal factors. The adaptive management plan will identify adaptive management triggers; indicators to be measured; and appropriate effective mitigation, restoration, and reclamation actions, including targets and benchmarks for responses. The plan will include both short-term and long-term monitoring which would indicate trends towards goals or need for adaptive management. The adaptive management plan will guide the development of project-level adaptive management strategies.

The BLM has a policy of adaptive management. This approach is particularly important in the case of a BLM-designated sensitive species such as the greater sage-grouse. The Lander Field Office will require implementation adaptive management strategies in support of the population management objectives for greater sage-grouse set by the State of Wyoming. These adaptive management strategies will be developed in partnership with the WGFD, project proponents, partners, and stakeholders, incorporating the best available science. The purpose of these strategies is to address localized greater sage-grouse population declines by providing the framework in which management will be changed if monitoring identifies substantial adverse population impacts.

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Glossary

Active Use:

The current authorized use, including livestock grazing and conservation use. Active use may constitute a portion, or all, of permitted use. Active use does include temporary nonuse or suspended use of forage within all or a portion of an allotment.

Air Quality Episode:

A period of abnormally high concentration of air pollutants.

Allotment:

An area of land where one or more livestock operators graze their livestock. Allotments are BLM-administered lands, but may also include other federally managed, state-owned, and private lands. An allotment may include one or more separate pastures. Livestock numbers and periods of use are specified for each allotment. Allotments are classified by the following:

> Category I – Improve Existing Resource Conditions. Criteria for placing allotments into this category include: (1) present range condition is unsatisfactory and where range condition is expected to decline further; (2) present grazing management is not adequate; (3) the allotment has potential for medium to high vegetative production but production is low to moderate; (4) resource conflicts/controversy with livestock grazing are evident; (5) there is potential for positive economic return on public investment.
>
> Category M – Maintain Existing Resource Conditions. Criteria for placing allotments into this category include: The category for allotments where (1) the present range condition and management are satisfactory with good to excellent condition and will be maintained under present management, or fair condition and improving with improvement expected to continue under present management, or opportunities for BLM management are limited because percentage of public land is low or acreage of public lands is small; (2) the allotment has a potential for moderate or high vegetative production and is producing at or near this potential; (3) there are no significant land-use resource conflicts with livestock grazing; (4) land ownership status may or may not limit management opportunities; (5) opportunities for positive economic return from public investment may exist.
>
> Category C – Custodial Management. Criteria for placing allotments into this category include: The category for allotments where (1) present range condition is not in a downward trend; (2) the allotment has a low vegetative production potential and is producing near this level; (3) there may or may not be limited conflicts between livestock grazing and other resources; (4) present management is satisfactory or is the only logical management under existing conditions; and (5) opportunities for a positive economic return on public investments do not exist.

Analysis Area:

Any lands, regardless of jurisdiction, for which the BLM synthesizes, analyzes, and interprets data for information that relates to planning for BLM-administered lands.

Animal Unit Month:

A standardized measurement of the amount of forage necessary for the sustenance of one cow unit or its equivalent for 1 month (approximately 800 pounds of forage).

Authorized Officer:

A manager/supervisor at a BLM Field Office, District Office, or State Office who has been delegated to take action pursuant to the various provisions of Title 43 Code of Federal Regulations (CFR) – Public Lands.

Authorized Surface-disturbing Activities:

Public Land resource uses/activities that disturb the endemic vegetation, surface geologic features, and/or surface/near surface soil resources beyond ambient site conditions that are permitted by previously-approved management actions. Examples of surface-disturbing activities include: construction of well pads and roads, pits and reservoirs, pipelines and powerlines, and most types of vegetation treatments (e.g., prescribed fire, etc.). NOTE: Some resource uses, commodity production and other actions that remove vegetative growth, geologic materials, or soils (e.g., livestock grazing, wildlife browsing, timber harvesting, sand and gravel pits, etc.) are allowed, and in some instances formally authorized, on the public lands. When utilized as a land use restriction, (e.g., No Surface-Disturbing Activities), this phrase prohibits all resource use or activity, except those uses and activities that are specifically authorized, likely to disturb the endemic vegetation, surface geologic features, and surface/near surface soils.

Avoidance Areas:

Areas where negative routing factors exist. Rights-of-way (ROWs) either will not be granted in these areas, or, if granted, will be subject to stringent terms and conditions. In other words, ROWs would be restricted, but not necessarily prohibited, in avoidance areas. Special stipulations will likely apply. Current avoidance criteria are provided in Appendix C (p. 193).

Big Game Crucial Winter Range:

Winter habitat on which a wildlife species depends for survival. Because of severe weather conditions or other limiting factors, no alternative habitat would be available.

Borrow Material:

A term used in conjunction with construction. The term refers to unprocessed material excavated from a borrow pit for use as fill at another location.

Carbon Dioxide Flood:

A carbon dioxide flood is an enhanced oil recovery technique that injects fluid into the reservoir. When carbon dioxide is injected, it mixes with the oil and the two compounds dissolve into one another. The injected carbon dioxide acts as a solvent to overcome forces that trap oil in tiny rock pores and helps sweep the immobile oil left behind after the effectiveness of water injection decreases, resulting in increased oil production.

Casual Use:

One of the three types of operations for locatable minerals (43 CFR 3809 et seq.). Casual use means “activities ordinarily resulting in no or negligible disturbance of the public lands or resources” (43 CFR 3809.5). An example of casual use is collection of rock or mineral specimens using hand tools or nonmotorized sluicing. It may include the use of small portable suction dredges. Casual use does not include the use of mechanized earth-moving equipment or truck-mounted drilling equipment and other mechanized devices. See also notice-level operations and Plan of Operations.

Cheatgrass:

Cheatgrass is an annual grass that forms tufts up to 2 feet tall. The leaves and sheaths are covered in short, soft hairs. The flowers occur as drooping, open, terminal clusters that can have a greenish, red, or purple hue. Flowering occurs in the early summer. These annual plants will germinate in fall or spring (fall is more common), and senescence usually occurs in summer. Cheatgrass invades rangelands, pastures, prairies, and other open areas. Cheatgrass has the potential to completely alter the ecosystems it invades. It can completely replace native vegetation and change fire regimes and is most problematic in areas of the western United States with lower precipitation levels.

Class II Wells:

Injection wells that are:

(1) Brought to the surface in connection with natural gas storage operations, or conventional oil or natural gas production, and may be commingled with wastewaters from gas plants, which are an integral part of production operations, unless those waters are classified as a hazardous waste at the time of injection.

(2) For enhanced recovery of oil or natural gas.

(3) For storage of hydrocarbons that are liquid at standard temperature and pressure.

Class I Wells:

Injection wells that are:

(1) Wells used by generators of hazardous waste or owners or operators of hazardous waste management facilities to inject hazardous waste beneath the lowermost formation containing, within ¼ mile of the wellbore, an underground source of drinking water.

(2) Other industrial and municipal disposal wells that inject fluid beneath the lowermost formation containing, within ¼ mile of the wellbore, an underground source of drinking water.

(3) Radioactive waste disposal wells that inject fluid below the lowermost formation containing, within ¼ mile of the wellbore, an underground source of drinking water.

Closed:

Generally denotes that an area is not available for a particular use or uses; refer to specific definitions found in law, regulations, or policy guidance for application to individual programs.

Commodity:

An economic good, such as a product of agriculture or mining.

Commodity Production:

The materialization of an economic good, such as a product of agriculture or mining.

Communication Site Management Plan:
A plan that provides for effective administration of a communications site. The site plan defines the principles and technical standards adopted in the site designation. The site plan provides direction for the day-to-day operations of the site in connection with the lease. The site plan shall delineate the types of uses that are appropriate at this site and the technical and administrative requirements for management of the site. The site plan should reflect the complexity of the current situation and the anticipated demand for the site.

Comprehensive Grazing Strategy:
A comprehensive grazing strategy is a management approach that incorporates a documented grazing prescription that tailors the timing and intensity (utilization) of grazing to specific vegetation objectives to maintain, or make significant progress toward, fulfillment of the Wyoming Standards for Healthy Rangelands. The grazing prescription is clearly linked to the physiological requirements of the species identified in the objectives and is considerate of other resource values (e.g., greater sage-grouse and critical wildlife habitats). Objectives are established for locations preferred by livestock. A comprehensive grazing strategy gives specific attention to the critical growing season on upland ranges and the hot season in riparian-wetland habitat. The kind and class of livestock along with the season of use will affect the timing and intensity requirements.

Comprehensive Weed Management Plan:
A plan for controlling invasive plant species that incorporates integrated weed management techniques and accounts for pertinent considerations, such as management actions and allocations affecting weeds.

Congressionally Designated Trails:
In 1968, the National Trails System Act (Public Law 90-543) provided for the development of a national system of trails in urban, rural, and wilderness settings. Originally, the National Trails System Act specified three categories of national trails: National Scenic Trails, recreation trails, and connecting or side trails. In 1978, historic trails were added as another category. Today, only Congress can designate National Historic Trails and National Scenic Trails. Congressionally Designated Trails in the planning area include the Continental Divide National Scenic Trail (CDNST) and the Oregon, Mormon Pioneer, California, and Pony Express National Historic Trails. Management of Congressionally Designated Trails is guided by Instruction Memorandum 2009-215 (Planning for Special Designations within the National System of Public Lands).

Controlled Surface Use:
Surface occupancy or use will be restricted or prohibited unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts. Identified resource values require special operational constraints that may modify the lease rights. Controlled surface use is used for operating guidance, not as a substitute for the no surface occupancy (NSO) or timing limitation stipulations.

Cooperative Monitoring:
Joint monitoring by more than one entity.

Core Area:
Executive Order 2008-2, which was superseded by Executive Order 2010-4 and again by 2011-5, issued by the Governor of Wyoming, delineated a Core Area to protect populations of

greater sage-grouse in the state. The Order also outlines restrictions on the density of future development and other human activities that limit impacts to greater sage-grouse populations.

Cultural Resource Inventory Levels:

A three-tiered process for discovering, recording, and evaluating cultural resources.

> (a) Class I – A review of existing literature and oral informant data combined with an analysis of a specific geographic region (e.g., an area of potential effect, drainage basin, resource area, etc.).
>
> (b) Class II – A sampling survey usually aimed at developing and testing a predictive model of cultural resource distribution.
>
> (c) Class III – An on-the-ground survey to discover, record, and evaluate cultural resources within a specific geographic area (e.g., usually an area of potential effect for a proposed undertaking).

Decibel (dB):

A unit of measurement of the loudness or strength of a signal. One decibel is considered the smallest difference in sound level that the human ear can discern. Decibels are a relative measurement derived from two signal levels; a reference input level and an observed output level. A decibel is the logarithm of the ratio of the two levels. One Bel is when the output signal is 10 times that of the input and one decibel is 1/10th of a Bel.

Designated Invasive Species:

Designated invasive species are species that have been formally declared as “noxious” by federal and state governments in accordance with the Federal Noxious Weed Act of 1974, and the Wyoming Weed and Pest Control Act of 1973. The Wyoming Weed and Pest Control Act Designated List and Declared Weeds and Pests by County identify species that are formally declared noxious and invasive species for Wyoming. The list of federal noxious weeds, as defined by the Federal Noxious Weed Act of 1974, can be found on the Natural Resources Conservation Service website: http://plants.usda.gov/java/noxiousDriver.

Designated Roads and Trails:

Specific roads and trails on which some type of motorized vehicle use is allowed, either seasonally or year-long.

Desired Plant Community:

Of the several plant communities that may occupy a site, the desired plant community is the community that has been identified through a management plan to best meet the plan’s objectives for the site. At a minimum, it must protect the site.

Disruptive Activities:

Those public land resource uses/activities that are likely to alter the behavior, displace, or cause excessive stress to existing animal or human populations occurring at a specific location and/or time. In this context, disruptive activity(ies) refers to those actions that alter behavior or cause the displacement of individuals such that reproductive success is adversely affected, or an individual’s physical ability to cope with environmental stress is compromised. This term does not apply to the physical disturbance of the land surface, vegetation, or features. Examples of disruptive activities may include noise, human foot or vehicle traffic, domestic animal roundups, or other human presence regardless of the activity. When administered as a land use restriction (e.g., No Disruptive Activities), this term may prohibit or limit the physical presence of sound above ambient levels, light beyond background levels, and/or the nearness of people and their activities. The term is commonly used in conjunction with protecting wildlife during crucial life stages (e.g., breeding, nesting, birthing, etc.), although it could apply to any resource value on the public lands. The use of this land use restriction is not intended to prohibit all activity or authorized uses.

Ecological Integrity:

The condition of an unimpaired ecosystem as measured by combined chemical, physical (including physical habitat), and biological attributes.

Ecological Site:

A kind of land with a specific potential natural community and specific physical site characteristics, differing from other kinds of land in that the site has the ability to produce distinctive kinds and amounts of vegetation and to respond to management. Ecological sites are defined and described with information about soil, species composition, and annual production.

Ephemeral Stream:

A stream that flows only in direct response to precipitation, and whose channel is at all times above the water table. Confusion over the distinction between intermittent and ephemeral streams may be minimized by applying Meinzer's suggestion that the term "ephemeral" be arbitrarily restricted to streams that do not flow continuously for at least 30 days (Prichard et al. 1998). Ephemeral streams support riparian-wetland areas when streamside vegetation reflects the presence of permanent subsurface water.

Exceedance:

An event in which measurements of ambient air quality are above the National Ambient Air Quality standard or Wyoming Department of Environmental Quality (DEQ) standard set for a particular pollutant. For example, an annual average nitrogen dioxide value of 110 micrograms per cubic meter ($\mu g/m^3$) is an exceedance of both the National Ambient Air Quality standard and Wyoming DEQ annual average standard for nitrogen dioxide of 100 $\mu g/m^3$.

Exception:

A one time exemption for a particular site within an oil and gas leasehold. Exceptions are determined on a case-by-case basis and the stipulation continues to apply to all other sites within the leasehold.

Exclusion Areas:

Areas not available for location of ROWs under any circumstances (BLM 2005a).

Extensive Recreation Management Areas:

Administrative units that require specific management consideration to address recreation use, demand, or Recreation and Visitor Services program investments. The Extensive Recreation Management Areas (ERMA) are managed to support and sustain the principal recreation activities and the associated qualities and conditions of the ERMA. Management of ERMAs is commensurate with management of other resources and resource uses.

Final Reclamation:

The long germ goal identified by the Wyoming Reclamation Policy (WY-2012-034) to facilitate eventual native plant community and ecosystem reconstruction to maintain a safe and stable landscape, and meet the desired outcomes of the land use plan.

Fire Management Plan:

Identifies appropriate strategies to achieve resource objectives. Identifies fire policy, objectives, and prescribed actions; may include maps, charts, tables, and statistical data.

Fire Regime Condition Class:

A classification of the amount of departure from the natural fire regime. The departure results in changes to one or more of the following ecological components: vegetation characteristics (e.g., species composition, structural stages, stand age, canopy closure, and mosaic pattern), fuel composition, fire frequency, severity, and pattern, and other associated disturbance (e.g., insect and disease mortality, grazing, and drought). The three condition classes are listed below.

(a) Condition Class 1

- The historic disturbance regime is largely intact and functioning (e.g., has not missed a fire return interval).
- Potential intensity and severity of fire within historic range.
- Effects of disease and insects within historic range.
- Hydrologic functions within normal historic range.
- Vegetation composition and structure resilient to disturbances.
- Nonnative species currently not present or to a limited extent.
- Low risk of loss for key ecosystem components.

(b) Condition Class 2

- Moderate alterations to historic disturbance regime evident (e.g., missed one or more fire return intervals).
- Effects of disease and insects pose an increased risk of loss of key community components.
- Riparian-wetland areas and associated hydrologic function show measurable signs of adverse departure from historic conditions.
- Vegetation composition and structure shifted toward conditions less resilient to disturbances.
- Populations of nonnative species may have increased, increasing the risk of further increases following disturbance.

(c) Condition Class 3

- Historic disturbance regime significantly altered; historic disturbance processes and impacts may be precluded (e.g., missed several fire return intervals).
- Effects of disturbance (fire, insects, and disease) may cause significant or complete loss of key community components.

- Hydrologic functions may be adversely altered; high potential for increased sedimentation and reduced streamflows.
- Invasive, nonnative species may be common and in some cases the dominant species on the landscape; disturbance will likely increase both the dominance and geographic extent of these invasive species.
- Highly altered vegetation composition and structure predisposes community to disturbance events outside the range of historic availability; disturbance may have effects not observed or measured before.

Fire Return Interval:
The number of years between two successive fire events at a specific site or area.

Flaring/Venting:
The controlled burning (flare) or release (vent) of natural gas that cannot be processed for sale or use because of technical or economic reasons.

Floodplain Connectivity:
Maintenance of lateral, longitudinal, and vertical pathways for biological and hydrological processes in the floodplain. Examples of failures to maintain connectivity could include culverts or levees that restrict flow in the floodplain and that focus overbank flow into the channel.

Flushing Livestock:
Flushing livestock is the holding of livestock in an invasive, nonnative plant species seed-free area where they are fed an invasive, nonnative plant species seed-free ration for 72 hours, thus flushing invasive, nonnative plant species seed from the animals' digestive systems.

Foreground-Middle Ground Zone:
An area that can be seen from a travel route for a distance of 3 miles (foreground) to 5 miles (middle ground) where management activities might be viewed. A distance from 5 to 15 miles is called the Background Zone and the area beyond 15 miles is called the Seldom-Seen Zone.

Geologic Resources:
Resources associated with the scientific study of the Earth, including its composition, structure, physical properties, and history. Geologic resources commonly include the study of minerals (mineralogy) and rocks (petrology), the structure of the Earth (structural geology) and volcanic phenomena (volcanology), and landforms and the processes that produce them (geomorphology and glaciology).

Goal:
A broad statement of a desired outcome. Goals are usually not quantifiable and may not have established timeframes for achievement.

Grazing Relinquishment:
The voluntary and permanent surrender by an existing permittee or lessee (with concurrence of any base property lineholder(s)), of their priority (preference) to use a livestock forage allocation on public land as well as their permission to use this forage. Relinquishments do not require consent or approval by the BLM. The BLM's receipt of a relinquishment is not a decision to close areas to livestock grazing.

Guzzler:

A water development for wildlife.

Heavy Equipment Use:

This phrase is used in fire management and is relative to limiting fire suppression tactics. In this context it refers to not using dozers, skidders, or graders in areas where important resource values are in need of protection. Fire engines and water tenders used during suppression activities would be allowed.

Held by Production:

Leases that become productive and do not terminate until all wells on the lease have ceased production.

Henneke Body Score:

The Henneke Body Score System was developed by Don R. Henneke, PhD of Tarleton State University in Texas in 1983. The Henneke System is a consistent method of objective evaluation of a horse's body condition based on visual and palpable fat cover over set points on a horse. For more information see http://www.gerlltd.org/Education/Equine%20Body%20Condition%20Score%20Presentation.pdf (Easley 2009) and Washington Office Instruction Memorandum 2009–041, available at:http://www.blm.gov/wo/st/en/info/regulations/Instruction_Memos_and_Bulletins/national_instruction/2009/IM_2009-041.html (BLM 2008b).

Historic American Buildings Survey/Historic American Engineering Record:

The Historic American Buildings Survey/Historic American Engineering Record is an integral component of the federal government's commitment to historic preservation. The program documents important architectural, engineering and industrial sites throughout the United States and its territories. A complete set of Historic American Buildings Survey/Historic American Engineering Record documentation, consisting of measured drawings, large-format photographs, and written history plays a key role in accomplishing the mission of creating an archive of American architecture and engineering and in better understanding what historic resources tell us about America's diverse ethnic and cultural heritage. To insure that such evidence is not lost to future generations, the Historic American Buildings Survey/Historic American Engineering Record Collections are archived at the Library of Congress, where they are made available to the public.

Hot Season:

The part of the grazing season that occurs during the hot part of the summer between June 15 and August 31.

Hummocking:

A small, rounded or cone-shaped, low hill or a surface of other small, irregular shapes.

Impact Analysis for Planning 2000 Model:

Impact Analysis for Planning (IMPLAN) 2000 Model is a regional economic model that provides a mathematical accounting of the flow of money, goods, and services through a region's economy. The model provides estimates of how a specific economic activity translates into jobs and income for the region. It includes the "ripple effect" (also called the "multiplier effect") of changes in economic sectors that may not be directly impacted by management actions, but are linked to industries that are directly impacted. In IMPLAN, these ripple effects are termed indirect impacts (for changes in industries that sell inputs to the industries that are directly affected) and induced impacts (for changes in household spending as household income increases or decreases due to the changes in production).

Important Wildlife Habitat:

Big game crucial winter range, big game parturition areas, designated critical migration corridors, sage-grouse breeding and nesting areas, raptor concentration areas, and critical fish spawning areas.

Integrated Pest Management:

Ecosystem-based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices, and use of resistant varieties. Pesticides are used only after monitoring indicates they are needed according to established guidelines, and treatments are made with the goal of removing only the target organism.

Integrated Weed Management:

The use of all appropriate weed control measures, including fire, as well as mechanical, chemical, biological, and cultural techniques, in an organized and coordinated manner on a site-specific basis.

Interim Reclamation:

The short-term goal identified by the Wyoming Reclamation Policy (WY-2012-034) to immediately stabilize disturbed areas and provide conditions necessary to achieve the long term goal.

Intermittent Stream:

A stream that flows only at certain times of the year when it receives water from springs or from some surface source such as melting snow in mountainous areas. Confusion over the distinction between intermittent and ephemeral streams may be minimized by applying Meinzer's suggestion that the term "intermittent" be arbitrarily restricted to streams that flow continuously for periods of at least 30 days (Prichard et al. 1998).

Land Tenure:

To improve the manageability of the BLM-administered lands and improve their usefulness to the public, the BLM has numerous authorities for "repositioning" lands into a more consolidated pattern, disposing of lands, and entering into cooperative management agreements. These land-pattern improvements are completed primarily through the use of land exchanges, but also through land sales, jurisdictional transfers to other agencies, and through the use of cooperative management agreements and leases. These ownership or jurisdictional changes are referred as "Land Tenure Adjustments."

Laramide Orogeny:

The Laramide orogeny (orogeny is the Greek word for mountain building) was a period of mountain building in western North America which began during the Late Cretaceous period, 70 to 80 million years ago, and ended 35 to 55 million years ago. The major feature that was created by this orogeny was the Rocky Mountains, but evidence of this period is found from Alaska to Mexico and as far east as the Black Hills. The phenomenon is named for the Laramie Mountains of eastern Wyoming.

Leasable Minerals:

Those minerals or materials subject to lease by the federal government under the Mineral Leasing Act of 1920. They include coal, phosphate, asphalt, sulphur, potassium, and sodium minerals; oil and gas, as well as geothermal resources.

Locatable Minerals:

Minerals subject to exploration, development, and disposal by staking mining claims as authorized by the Mining Law of 1872, as amended. This includes deposits of metallic minerals such as gold, silver, and other uncommon materials not subject to lease or sale.

Major Constraints (Oil and Gas):

Any stipulations or conditions of approval which may restrict the timing or placement of oil and gas developments and may result in an operator dropping the development proposal. Major constraints include NSOs, areas closed to surface-disturbing activity, areas where surface-disturbing activity is prohibited, and visual resource management (VRM) Class I areas. Leaseholders have the right to explore, develop, and produce mineral resources from any valid, existing lease, even if the area containing the lease were proposed to be closed to future leasing.

Major Right-of-Way:

A Federal Land Policy and Management Act ROW grant under 43 CFR Par 2800 et seq. which the BLM determines to be a Category 4, 5, or 6 type of authorization under 43 CFR 2804.14.

Mechanized Travel:

Moving by means of a mechanical device, such as a bicycle, and not powered by a motor.

Mineral Materials:

Materials such as common varieties of sand, stone, gravel, pumice, pumicite, and clay that are not obtainable under the mining or leasing laws, but can be acquired under the Mineral Materials Act of 1947, as amended. Also known as salable minerals.

Mineral Withdrawal:

A formal order that withholds federal lands and minerals from entry under the Mining Law of 1872, as amended, and closes the area to mineral location (i.e., staking mining claims) and development.

Minor Right-of-Way:

A Federal Land Policy and Management Act ROW grant under 43 CFR Par 2800 et seq. which the BLM determines to be a Category 1, 2, or 3 type of authorization under 43 CFR 2804.14.

Mitigation:

(a) Avoiding the impact altogether by not taking a certain action or parts of an action.

(b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.

(c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.

(d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.

(e) Compensating for the impact by replacing or providing substitute resources or environments.

Moderate Constraints (Oil and Gas):
Any stipulations or conditions of approval which may restrict the timing or placement of oil and gas development, but would not otherwise restrict the overall development. Moderate constraints include all timing restrictions (timing limitation stipulations), controlled surface use, areas where surface-disturbing activity is avoided, and VRM Class II areas.

Modern Intrusions:
Modern elements or developments that would be out of character with a historic landscape or resource. Modern intrusions can be visual, audible, or atmospheric. An example of a modern intrusion is a new structure or building that would be visible from a historic trail or site, whose setting is primarily historically intact. It could also include a modern scar on the landscape that would be visible from the trail or site.

Motorized Use:
Use of public lands by means of vehicles that are propelled by motors, such as cars, trucks, off-highway vehicles (OHVs), motorcycles, etc.

Multiple Use Reservoir:
A human-created lake or pond with a combination of balanced uses, including, but not limited to, recreation, livestock watering, watershed health, and wildlife and fish.

Native Species Status:
Native Species Status refers to the population status of species native to the area in which their habitats occur. The Native Species Statuses are divided into the following categories:

Native Species Status 1

- Populations are greatly restricted or declining, extirpation appears possible; or ongoing significant loss of habitat.

Native Species Status 2

- Populations are declining, extirpation appears possible; habitat is restricted or vulnerable, but no recent or ongoing significant loss; species may be sensitive to human disturbance.

OR

- Populations are declining or restricted in numbers and/or distribution, extirpation is not imminent; ongoing significant loss of habitat.

Native Species Status 3

- Populations are greatly restricted or declining, extirpation appears possible; habitat is not restricted, vulnerable, but no loss; species is not sensitive to human disturbance.

OR

- Populations are declining or restricted in numbers and/or distribution, extirpation is not imminent; habitat is restricted or vulnerable, but no recent or ongoing significant loss; species may be sensitive to human disturbance.

  OR

- Species is widely distributed; population status or trends are unknown, but are suspected to be stable; ongoing significant loss of habitat.

Native Species Status 4

- Populations are greatly restricted or declining, extirpation appears possible; habitat is stable and not restricted.

  OR

- Populations are declining or restricted in numbers and/or distribution, extirpation is not imminent; habitat is not restricted, vulnerable, but no loss; species is not sensitive to human disturbance.

  OR

- Species is widely distributed, population status or trends are unknown, but are suspected to be stable; habitat is restricted or vulnerable, but no recent or ongoing significant loss; species may be sensitive to human disturbance.

  OR

- Populations that are stable or increasing and not restricted in numbers and/or distribution; ongoing significant loss of habitat.

Natural Fire Regime:

The general classification of the role fire would play across a landscape in the absence of modern human mechanical intervention, but including the influence of aboriginal burning (National Wildlife Coordinating Group 2003).

Nature and Purposes:

The term used to describe the character, characteristics, and Congressional intent for a designated National Trail, including the resources, qualities, values, and associated settings of the areas through which such trails may pass; the primary use or uses of a National Trail; and activities promoting the preservation of, public access to, travel within, and enjoyment and appreciation of National Trails.

Necessary Tasks:

Temporary excursions leaving existing vehicular routes are permitted only to accomplish necessary tasks. Necessary tasks are actions that support commercial or industrial uses of public lands, which need to be accomplished by a person or organization seeking or holding authorization from the BLM to build, maintain, or place infrastructure necessary to achieve planning goals and objectives, or exercise valid existing rights. Tasks associated with such activities typically require motorized vehicles to haul materials, tools, and equipment to the project site.

The majority of necessary tasks will occur as a result of a BLM authorization. At the time of project authorization, offices will assume and analyze a level of motorized vehicle use for construction and maintenance. It is feasible that a new road will develop as a result of the exemption, and therefore offices should consider if this new road will be open to the public, only for administrative access, or reclaimed. Additional mitigation measures may be necessary to reduce motorized vehicle impacts. Mitigation measures pertaining to the necessary task exemption will be included in the terms and conditions, Conditions of Approval, or stipulations. Monitoring and evaluation will be conducted at these known locations.

Sometimes necessary tasks (as defined above) are and will be accomplished without formal written approval or in advance of receiving an authorization. Cross-country OHV travel in these cases is authorized so long as resource damage does not occur. While generally defined, the determination of whether resource damage has occurred is left to the discretion of field managers and law enforcement personnel. For this reason, project proponents are encouraged to contact their local field offices prior to using OHVs cross-country, so as to ensure use will not cause resource damage. In addition, project proponents must notify the BLM in writing when and where cross-country travel has occurred prior to an authorization. This can be done at the application phase, but must occur prior to final authorization.

Other Authorizations and Uses:

It is recognized that in many cases, cross-country motorized vehicle use is the most efficient tool for operators and industry to achieve BLM (Planning/Resource/Statutory) objectives and requirements. Livestock herding, scientific studies, habitat treatments, etc., are all examples of actions that may require cross-country motorized vehicle travel. In these cases, the project proponent is expected to submit a request for exemption from travel management regulations. The request for exemption will contain the following elements:

1. Who? Name of company, individuals, agency, and/or other entities traveling cross-country.
2. Description of proposed action and why the action is necessary to achieve agency objectives?
3. Type of motorized vehicle to be used and description of how the vehicle will be used for the proposed action?
4. A map with specific areas where projected cross-country travel is necessary?
5. Season, frequency, and duration of cross-country travel.
6. Why this action can’t be accomplished using nonmotorized conveyances (e.g., horses)?
7. Expected outcome if this authorization is granted? Expected outcome if this authorization is not granted?
8. Methods and measures to minimize resource damage?
9. Other information.

Waivers/authorizations will be conditional upon consistency with Land Use and Activity Level planning decisions and other BLM objectives. The project proponent is encouraged to be as detailed as possible in the application for exception. The BLM will consider an application for exception complete when the information provided is sufficient to facilitate impact analysis, enforcement, monitoring, and evaluation. Project proponents are encouraged to submit the waiver request in tandem with other applications, renewals, or proposals, but the agency will accept the applications at all times. Waiver applications will not be accepted for individuals that are being actively investigated for violation of a OHV rule. Waivers and authorizations will not be granted to individuals who have been convicted of an OHV violation.

Any and all individuals conducting cross-country travel under such a waiver or authorization will carry a copy of the waiver and conditions associated with the waiver. The project proponent associated with the waiver will be required on an annual basis to provide an 'actual occurrence' report that documents the location (legal description), time, and date of each and all incidents where motorized vehicles were used to travel cross-country or off-road.

Failure to adequately document all occurrence of cross-country or off-road travel will result in termination of the waiver. Upon evaluation and monitoring, if it is determined that unacceptable conditions or resource damage is occurring, the waiver may be revoked. Additionally, if an evaluation shows no increased progress towards objectives and/or requirements (part 2 of the request information) then the waiver can be revoked.

No Surface Occupancy:

The term "no surface occupancy" is used in two ways. It is used in one way to define an NSO area where no surface-disturbing activities of any nature or for any purpose would be allowed. For example, construction or the permanent or long-term placement of structures or other facilities for any purpose would be prohibited in an NSO area.

The other way the "no surface occupancy" term is used is as a stipulation or mitigation requirement for controlling or prohibiting selected land uses or activities that would conflict with other activities, uses, or values in a given area. When used in this way, the NSO stipulation or mitigation requirement is applied to prohibit one or more specific types of land and resource development activities or surface uses in an area, while other – perhaps even similar – types of activities or uses (for other purposes) would be allowed. For example, protecting important rock art relics from destruction may require closing the area to the staking of mining claims and surface mining, cross-country vehicle travel, construction or long-term placement of structures or pipelines, powerlines, general purpose roads, and livestock grazing. Conversely, the construction of fences to protect the rock art from vandalism or from trampling or breakage by livestock, an access road or trail, and other visitor facilities to provide interpretation and opportunity for public enjoyment of the rock art would be allowed. Further, if there were interest in development of leasable minerals in the area, leases for oil and gas, coal, and so forth, could be issued with a "no surface occupancy" stipulation or mitigation requirement for the rock art site, which would still allow access to the leasable minerals from adjacent lands and underground. The term "no surface occupancy" has no relationship or relevance to the presence of people in an area.

Notice-level Operations:

Non-casual use operations that will disturb 5 acres or less of public lands on which reclamation has not been completed. A notice must be submitted 15 calendar days before exploration is commenced. See casual use and Plan of Operations and 43 CFR 3809.5.

Objective:

A description of a desired condition for a resource. Objectives can be quantified and measured and, where possible, have established timeframes for achievement.

Occupied Lek:

A lek that has been active during at least one strutting season within the last 10 years.

Off-highway Vehicle:

Any motorized vehicle capable of, or designed for, travel on or immediately over land, water, or other natural terrain, excluding: (1) any nonamphibious registered motorboat; (2) any military, fire, emergency, or law enforcement vehicle being used for emergency purposes; (3) any vehicle whose use is expressly authorized by the Authorized Officer, or otherwise officially approved; (4) vehicles in official use; and (5) any combat or combat support vehicle when used in times of national defense emergencies.

Off-highway Vehicle Management Designations:

Designations apply to all OHVs regardless of the purposes for which they are being used. Emergency vehicles are excluded. The OHV designation definitions have been developed in cooperation with representatives of the U.S. Forest Service, National Park Service, and the BLM state and field office personnel. The BLM recognizes the differences between OHVs and over-snow vehicles in terms of use and impact. Therefore, travel by over-snow vehicles will be permitted off existing routes and in all open or limited areas (unless otherwise specifically limited or closed to over-snow vehicles) if they are operated in a responsible manner without damaging the vegetation or harming wildlife.

Closed:

Vehicle travel is prohibited in the area. Access by means other than motorized vehicle is permitted. This designation is used if closure to all vehicular use is necessary to protect resources, to ensure visitor safety, or to reduce conflicts.

Open:

Vehicle travel is permitted in the area (both on and off roads) if the vehicle is operated responsibly in a manner not causing, or unlikely to cause, significant undue damage to or disturbance of the soil, wildlife, wildlife habitats, improvements, cultural or vegetative resources, or other authorized uses of the public lands. These areas are used for intensive OHV use where there are no compelling resource needs, user conflicts, or public safety issues to warrant limiting cross-country travel.

Limited:

(a) Vehicle travel is permitted only on roads and vehicle routes which were in existence prior to the date of designation in the *Federal Register*. Vehicle travel off of existing vehicle routes is permitted only to accomplish necessary tasks and only if such travel does not result in resource damage. Random travel from existing vehicle routes is not allowed. Creation of new routes or extensions and/or widening of existing routes are not allowed without prior written agency approval.

(b) Vehicle travel is permitted only on roads and vehicle routes designated by the BLM. In areas where final designation has not been completed, vehicle travel is limited to existing roads and vehicle routes as described above. Designations are posted as follows:

1. Vehicle route is open to vehicular travel.
2. Vehicle route is closed to vehicular travel.

(c) Vehicle travel is limited by number or type of vehicle. Designations are posted as follows:

1. Vehicle route limited to four-wheel drive vehicles only.
2. Vehicle route limited to motorbikes only.
3. Area is closed to over-snow vehicles.

(d) Vehicle travel is limited to licensed or permitted use.

(e) Vehicle travel is limited to time or season of use.

(f) Where specialized restrictions are necessary to meet resource management objectives, other limitations also may be developed.

The BLM may place other limitations, as necessary, to protect other resources, particularly in areas that motorized OHV enthusiasts use intensely or where they participate in competitive events.

Offsite Mitigation:
Mitigation located away from the adversely affected site.

Open:
Generally denotes that an area is available for a particular use or uses. Refer to specific program definitions found in law, regulations, or policy guidance for application to individual programs.

Overgrazing:
Continued heavy grazing that exceeds the recovery capacity of the forage plants and creates deterioration of the grazing lands (Valentine 1990).

Over-snow Vehicle:
An over-snow vehicle is a motor vehicle that is designed for use over snow that runs on a track or tracks and/or a ski or skis. An over-snow vehicle does not include machinery used strictly for the grooming of nonmotorized trails.

Perennial Stream:
A stream that flows continuously. Perennial streams generally are associated with a water table in the localities through which they flow (Prichard et al. 1998).

Permitted Use:
The forage allocated by, or under the guidance of, an applicable land use plan for livestock grazing in an allotment under a permit or lease and expressed in animal unit months.

Pest:
With the exception of vascular plants classified as invasive nonnative plant species, a pest can be any biological life form that poses a threat to human or ecological health and welfare. For the purposes of this planning effort, an "animal pest" is any vertebrate or invertebrate animal

subject to control by Animal and Plant Health Inspection Service. Animal and Plant Health Inspection Service is currently the BLM's authorized agent for controlling "animal pests." For this reason, "animal pests" will be considered a subset of Pest.

Planned Ignition:

The intentional initiation of a wildland fire by hand-held, mechanical, or aerial device, where the distance and timing between ignition lines or points and the sequence of igniting them is determined by environmental conditions (weather, fuel, topography), firing technique, and other factors which influence fire behavior and fire effects (see *Prescribed Fire*).

Planning Area:

A geographic area for which land use and resource management plans are developed and maintained.

Plan of Operations:

Projects disturbing more than 5 acres require an approved Plan of Operations before work can begin. Once a Plan of Operations is filed with the BLM, the proposed action is analyzed and those mitigating measures needed to prevent unnecessary or undue degradation are required for approval. A Plan of Operations must always be filed, regardless of disturbance acreage, for activities which exceed casual use and occur in special management areas such as areas of critical environmental concern, wild and scenic rivers and areas closed to off-road vehicle use. A Plan of Operations is required in wilderness study areas for other than casual use level activities. The non-impairment criteria will determine the required mitigating measures in the Plan of Operations.

Potential Fossil Yield Classification:

Geologic units in the planning area are classified according to the Potential Fossil Yield Classification, usually at the formation or member level, according to the probability of yielding resources of concern to land managers, primarily vertebrate fossils. The classification uses a ranking of 1 through 5, with Class 5 assigned to units with a high potential for fossils. Within the planning area, Class 4 and Class 5 geologic formations account for approximately 50 percent of the total acreage, including all ownerships. About 35 percent of public land in the planning area is underlain by Class 4 and Class 5 formations. The classifications are described as below:

> Class 1. Igneous and metamorphic geologic units, or units with highly disturbed preservational environments that are not likely to contain recognizable fossil remains. Management concern is negligible for Class 1 resources and mitigation requirements are rare.
>
> Class 2. Sedimentary geologic units that are not likely to contain vertebrate fossils or significant nonvertebrate fossils. Management concern is low for Class 2 resources and mitigation requirements are not likely.
>
> Class 3. Fossiliferous sedimentary geologic units where fossil content varies in significance, abundance, and predictable occurrence, or units of unknown fossil potential. Management concern may extend across the entire range of management. Ground-disturbing activities require sufficient assessment to determine whether significant resources occur in the area of the proposed action.

Class 4. Class 4 units are Class 5 units with a lowered risk of human-caused adverse impacts or lowered risk of natural degradation. Ground-disturbing activities require assessment to determine whether significant resources occur in the area of the proposed action and whether those actions will impact the resource. Mitigation may include full monitoring of significant localities.

Class 5. Highly fossiliferous geologic units that regularly produce vertebrate fossils or significant nonvertebrate fossils and that are at risk of natural degradation or human-caused adverse impacts. Class 5 areas receive the highest level of management focus. Mitigation of ground-disturbing actions is required and may be intense. Areas of special interest may be designated and intensely managed.

Potential Natural Community:
The biotic community that would become established if all successional sequences were completed without interference by humans under the present environmental conditions. Natural disturbances are inherent in development. Potential natural community includes naturalized nonnative species.

Prairie Dog "Complex":
Defined as a cluster of two or more prairie dog towns within 3 kilometers of each other (Clark and Stromberg 1987), and bounded by either natural or artificial barriers (Whicker and Detling 1988), which effectively isolate one cluster of colonies from interacting/interchanging with another. Prairie dogs may commonly move among colonies of a cluster, and thereby foster reproductive/genetic viability, but exhibit little emigration/immigration between clusters. A cluster may include some currently unoccupied, through physically suitable (i.e., vegetation, soils, topography, etc.), land immediately adjacent to occupied colonies that support other prairie dog-associated (ecosystem function), obligate or facultative species (e.g., swift fox, mountain plover, burrowing owl, etc.).

Preference:
A superior or priority position against others for the purpose of receiving a grazing permit or lease. This priority is attached to base property or controlled by a permittee or lessee.

Prescribed Burning:
Controlled application of fire to wildland fuels in either their natural or modified state under specified environmental conditions that allow the fire to be confined to a predetermined area, and at the same time, to produce the fire intensity and rate of spread required to attain planned resource management objectives.

Prescribed Fire:
A wildland fire originating from a planned ignition to meet specific objectives identified in a written, approved, prescribed fire plan for which National Environmental Policy Act requirements (where applicable) have been met prior to ignition.

Priority Fish Species:
Species considered to be sport fish and native species.

Priority Habitat or Priority Areas for Conservation:
The habitat of highest conservation value relative to maintaining sustainable sage-grouse populations range-wide. Priority habitat will be areas of high quality habitat supporting

important sage-grouse populations, including those populations that are vulnerable to localized extirpation but necessary to maintain range-wide connectivity and genetic diversity.

Produced Water:

Groundwater removed to facilitate the extraction of minerals, such as coal, oil, or gas.

Proper Functioning Condition:

The on-the-ground condition of a riparian-wetland area, referring to how well the physical processes are functioning and the state of resiliency that will allow a riparian-wetland area to hold together during a high-flow event, sustaining that system's ability to produce values related to both physical and biological attributes.

Proper Grazing:

Proper grazing is the practice of managing forage use by grazing animals at a sustainable level that maintains rangeland health. Proper grazing will maintain or increase plant cover, including residue, which acts to slow down or reduce runoff, increase water infiltration, and keep erosion and sedimentation at or above acceptable levels within the potential of ecological sites within a given geographic area (e.g., watershed, grazing allotment, etc.).

Range Improvement Project:

A structural improvement requiring placement or construction to facilitate management or control distribution and movement of grazing or browsing animals. Such improvements may include, but are not limited to, fences, wells, troughs, reservoirs, water catchments, pipelines, and cattleguards. The project also may include a practice or treatment which improves rangeland condition and or resource production for multiple use. Nonstructural types of projects may include, but are not limited to, seeding and plant control through chemical, mechanical, and biological means or prescribed burning.

Rangeland:

Land on which the native vegetation is predominantly grasses, grass-like plants, forbs, or shrubs suitable for grazing or browsing. This includes lands revegetated naturally or artificially when routine management of that vegetation is accomplished mainly through manipulation of grazing. Rangelands include natural grasslands, savannas, shrublands, most deserts, tundra, alpine communities, coastal marshes, and wet meadows.

Rangeland Health:

The degree to which the integrity of the soil and ecological processes of rangeland ecosystems are sustained.

Raptor:

Bird of prey with sharp talons and a strongly curved beak, such as hawks, falcons, owls, vultures, and eagles.

Recreational Outcomes:

The beneficial and non-beneficial consequences (i.e., outcomes) of the management and use of recreation and related amenity resources and programs (Driver 2008).

Recreational Use:

The public is allowed to pursue recreational (e.g., picking up big game kills, camping, parking) activities up to 300 feet away from roads and trails, as long as such activities do not cause resource damage or create new roads or extend existing roads. The existing road system and this cross-country travel allowance is designed to accommodate the needs of recreational activities on the public lands. This applies only to all “Limited” travel designations.

Recreation Management Areas:

Recreation management areas are classified as either Special Recreation Management Areas (SRMAs) or ERMAs. The recreation management areas are land units where Recreation and Visitor Services objectives are recognized as a primary resource management consideration, and specific management is required to protect the recreation opportunities. The recreation management area designation is based on recreation demand and issues, recreation setting characteristics, resolving use/user conflicts, compatibility with other resource uses, and resource protection needs (BLM Instruction Memorandum 2011-004 [BLM 2011a]).

> Extensive Recreation Management Areas: Administrative units that require specific management consideration to address recreation use, demand, or Recreation and Visitor Services program investments. ERMAs are managed to support and sustain the principal recreation activities and the associated qualities and conditions of the ERMA. Management of ERMAs is commensurate with management of other resources and resource uses.
>
> Special Recreation Management Areas: Administrative units where the existing or proposed recreation opportunities and recreation setting characteristics are recognized for their unique value, importance, and/or distinctiveness, especially compared to other areas used for recreation. The SRMAs are managed to protect and enhance a targeted set of activities, experiences, benefits, and desired recreation setting characteristics. SRMAs may be subdivided into recreation management zones (RMZs) to further delineate specific recreation opportunities.

Responsible Official:

The BLM official who has been delegated authority to approve an action by signing a Record of Decision in the matter of an Environmental Impact Statement, or Decision Records in the matter of an Environmental Assessment.

Restricted Disposal:

Parcels identified for restricted disposal may be disposed of under the Recreation and Public Purposes Act, by exchange, may limit the disposal to a particular type of entity capable of preserving the resource values, or may include the use of covenants in the deed or land sale patent to ensure the resource values are protected.

Retirement:

Ending livestock grazing on a specific area of land.

Rights-of-Way:

A ROW grant is an authorization to use a specific piece of public land for a specific project, such as roads, pipelines, transmission lines, and communication sites. The grant authorizes rights and privileges for a specific use of the land for a specific period of time.

Rights-of-Way Avoidance Areas:

Areas where adverse routing factors exist. ROWs either will not be granted in these areas, or, if granted, will be subject to stringent terms and conditions. In other words, ROWs would be restricted (but not necessarily prohibited) in these avoidance areas (see BLM Manuals 2800 and 2880).

Rights-of-Way Exclusion Area:

Areas with sensitive resource values where ROW and 302 permits, leases, and easements would not be authorized (see BLM Manuals 2800 and 2880).

Riparian Areas:

Riparian areas are a form of wetland transition between permanently saturated wetlands and upland areas. These areas exhibit vegetation or physical characteristics reflective of permanent surface or subsurface water influence. Lands along, adjacent to, or contiguous with perennially and intermittently flowing rivers and streams, glacial potholes, playas, and the shores of lakes and reservoirs with stable water levels, are typical riparian areas. Excluded are such sites as ephemeral streams or washes that do not exhibit the presence of vegetation dependent upon free water in the soil.

Riparian-Wetland Functionality Classification:

Functional At-Risk: Riparian-wetland areas that are in functional condition, but an existing soil, water, or vegetation attribute makes them susceptible to degradation.

Proper Functioning Condition: A riparian or wetland area is considered to be in proper functioning condition when adequate vegetation, landform, or large woody debris is present to do the following:

- Dissipate stream energy associated with high water flows, thereby reducing erosion and improving water quality.
- Filter sediment, capture bedload, and aid floodplain development.
- Improve floodwater retention and groundwater recharge.
- Develop root masses that stabilize stream banks against cutting action.
- Develop diverse ponding and channel characteristics to provide the habitats and the water depth, duration, and temperature necessary for fish production, waterfowl breeding, and other uses.
- Support greater biodiversity.

Nonfunctional: Riparian or wetland areas that clearly are not providing adequate vegetation, landform, or large woody debris to dissipate stream energy associated with high flows and thus are not reducing erosion, improving water quality, and so on, as listed above. The absence of certain physical attributes, such as a floodplain where one should be, are indicators of nonfunctioning conditions.

Unknown: Riparian or wetland areas that the BLM lacks sufficient information on to make any form of determination.

Salable Minerals:

See *Mineral Materials*.

Seasonal Ranges:

The Wyoming Game and Fish Department has identified various ranges for big game species. These ranges are defined as follows:

> Summer or Spring-Summer-Fall: A population or portion of a population of animals use the documented habitats within this range annually from the end of previous winter to the onset of persistent winter conditions.
>
> Severe Winter Relief: A documented survival range, which may or may not be considered a crucial range area as defined above. It is used to a great extent, but only in extremely severe winters. It may lack habitat characteristics that would make it attractive or capable of supporting major portions of the population during normal years, but is used by and allows at least a significant portion of the population to survive the occasional extremely severe winter.
>
> Winter: A population or portion of a population of animals annually use the documented suitable habitat sites within this range in substantial numbers during the winter period only.
>
> Winter/Year-long: A population or a portion of a population of animals makes general use of the documented suitable habitat sites within this range on a year-round basis. During the winter months there is a significant influx of additional animals into the area from other seasonal ranges.
>
> Year-long: A population or substantial portion of a population of animals makes general use of the suitable documented habitat sites within the range on a year-round basis. On occasion, animals may leave the area under severe conditions.
>
> Parturition Areas: Documented birthing areas commonly used by females. They include calving areas, fawning areas, and lambing grounds. These areas may be used as nurseries by some big game species.

Section 106 of National Historic Preservation Act:

"The head of any federal agency having direct or indirect jurisdiction over a proposed federal or federally assisted undertaking in any state and the head of any federal department or independent agency having authority to license any undertaking shall, prior to the approval of the expenditure of any federal funds on the undertaking or prior to the issuance of any license, as the case may be, take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register of Historic Places. The head of any such federal agency shall afford the Advisory Council on Historic Preservation established under Title II of this Act a reasonable opportunity to comment with regard to such undertaking" (16 United States Code 47 df).

Sensitive Sites or Resources:

Sensitive sites or resources refer to significant cultural resources that are, or may be eligible, for nomination to the National Register of Historic Places.

Sensitive Species:

Species designated as sensitive by the BLM State Director include species that are under status review, have small or declining populations, live in unique habitats, or require special management. BLM Manual 6840 provides policy and guidance for special status species management. The BLM Wyoming Sensitive Species Policy and List are provided in a memorandum updated annually. Primary goals of the BLM Wyoming policy include maintaining vulnerable species and habitat components in functional BLM ecosystems and preventing a need for species listing under the Endangered Species Act.

Seral Stage:
One of a series of plant communities that follows another in time on a specific ecological site.

Setting:
Setting is the physical environment of a historic property and how the property evokes a sense of feeling and association with past events. Accordingly, setting refers to the character of the place in which the property played its historic role. It involves how, not just where, the property is situated and its relationship to surrounding features and open space. These features and their relationships should be considered not only within the exact boundaries of the property, but also between the property and its surroundings.

Special Recreation Management Areas:
Administrative units where the existing or proposed recreation opportunities and recreation setting characteristics are recognized for their unique value, importance, and/or distinctiveness, especially as compared to other areas used for recreation. The SRMAs are managed to protect and enhance a targeted set of activities, experiences, benefits, and desired recreation setting characteristics. SRMAs may be subdivided into RMZs to further delineate specific recreation opportunities.

Special Status Species:
Special status species are species proposed for listing, officially listed as threatened or endangered, or are candidates for listing as threatened or endangered under the provisions of the Endangered Species Act; those listed by a state in a category such as threatened or endangered, implying potential endangerment or extinction; and those designated by the State Director as sensitive (BLM 2008c).

Split-estate:
Surface land and mineral estate of a given area under different ownerships. Frequently, the surface will be privately owned and the minerals federally owned.

Standards for Healthy Rangelands:
A description of the physical and biological conditions or degree of function required for healthy, sustainable lands (e.g., land health standards).

State-listed Species:
Species proposed for listing or listed by a state in a category implying, but not limited to, potential endangerment or extinction. Listing is either by legislation or regulation.

Stratospheric Intrusions:
A stratospheric ozone intrusion is an infrequent, localized, short-term occurrence when a parcel of stratospheric air (air at a height of 20 kilometers) is transported to the earth's surface.

Surface-disturbing Activities (or Surface Disturbance):
The physical disturbance and movement or removal of land surface and vegetation. These activities range from the very minimal to the maximum types of surface disturbance associated with such things as OHV travel or use of mechanized, rubber-tired, or tracked equipment and

vehicles; some timber cutting and forest silvicultural practices; excavation and development activities associated with use of heavy equipment for road, pipeline, powerline and other types of construction; blasting; strip, pit, and underground mining and related activities, including ancillary facility construction; oil and gas well drilling and field construction or development and related activities; range improvement project construction; and recreation site construction.

Surface Water Classes and Uses:

The following water classes are a hierarchical categorization of waters according to existing and designated uses. Except for Class 1 waters, each classification is protected for its specified uses plus all the uses contained in each lower classification. Class 1 designations are based on value determinations rather than use support and are protected for all uses in existence at the time of or after designation. There are four major classes of surface water in Wyoming with various subcategories within each class.

> (a) Class 1, Outstanding Waters. Class 1 waters are those surface waters in which no further water quality degradation by point source discharges other than from dams will be allowed. Nonpoint sources of pollution shall be controlled through implementation of appropriate best management practices. Pursuant to Section 7 of these regulations, the water quality and physical and biological integrity that existed on the water at the time of designation will be maintained and protected. In designating Class 1 waters, the Environmental Quality Council shall consider water quality, aesthetic, scenic, recreational, ecological, agricultural, botanical, zoological, municipal, industrial, historical, geological, cultural, archeological, fish and wildlife, the presence of substantial quantities of developable water, and other values of present and future benefit to the people.
>
> (b) Class 2, Fisheries and Drinking Water. Class 2 waters are waters, other than those designated as Class 1 that are known to support fish or drinking water supplies or where those uses are attainable. Class 2 waters may be perennial, intermittent, or ephemeral and are protected for the uses indicated in each subcategory listed below. Five subcategories of Class 2 waters exist.
>
> (c) Class 3, Aquatic Life Other than Fish. Class 3 waters are waters other than those designated as Class 1 that are intermittent, ephemeral, or isolated waters, and because of natural habitat conditions, do not support nor have the potential to support fish populations or spawning or certain perennial waters that lack the natural water quality to support fish (e.g., geothermal areas). Class 3 waters provide support for invertebrates, amphibians, or other flora and fauna that inhabit waters of the state at some stage of their life-cycles. Uses designated on Class 3 waters include aquatic life other than fish, recreation, wildlife, industry, agriculture, and scenic value. Generally, waters suitable for this classification have wetland characteristics; and such characteristics will be a primary indicator used in identifying Class 3 waters. There are four subcategories of Class 3 waters.
>
> (d) Class 4, Agriculture, Industry, Recreation, and Wildlife. Class 4 waters are waters other than those designated as Class 1 where it has been determined that aquatic life uses are not attainable pursuant to the provisions of Section

33 of these regulations. Uses designated on Class 4 waters include recreation, wildlife, industry, agriculture and scenic value (Wyoming DEQ No Date).

Suspension:
The temporary witholding from active use, through a decision issued by the Authorized Officer or by agreement, of part or all, of the permitted use in a grazing permit or lease.

Type E Fence:
Identified as a wildlife-friendly fence type that more effectively accommodates wildlife passage than other traditional fence types. Four-wire construction allows most wildlife species to pass over or under the fence and provides adequate containment for livestock.

Unique Forest and Woodland Communities:
Forest and woodland habitats recognized as significant for at least one factor such as density, diversity, size, public interest, remnant character, age, or having limited distribution throughout the planning area.

Utilization Levels:
The proportion or degree of current year’s forage production that is consumed or destroyed by animals (including insects). It may refer either to a single plant species, a group of species, or to the vegetation as a whole, generally expressed as a percentage.

Vegetative Diversity:
The variety of vegetative types in an area, including species, the genetic differences among species and populations, the communities and ecosystems in which vegetation types occur, and the structure and seral stage of these communities. Vegetative diversity includes rare, as well as common vegetative types, and typically supports a diverse array of animal species and communities.

Viewshed:
Viewshed is used in VRM to describe “… landscape that can be seen under favorable atmospheric conditions from a viewpoint (key observation point) or along a transportation corridor” (BLM 1984).

Visual Resource Management Classes:

Class I. The objective of this class is to maintain a landscape setting that appears unaltered by humans. It is applied to wilderness areas, some natural areas, wild portions of wild and scenic rivers, and other similar situations in which management activities are to be restricted.

Class II. The objective of this class is to design proposed alterations so as to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

Class III. The objective of this class is to design proposed alterations so as to partially retain the existing character of the landscape. Contrasts to the basic elements (form, line, color, and texture) caused by a management activity may be evident and begin to attract attention in the characteristic landscape;

however, the changes should remain subordinate to the existing characteristic landscape.

Class IV. The objective of this class is to provide for management activities that require major modification of the existing character of the landscape. Contrasts may attract attention and be a dominant feature of the landscape in terms of scale; however, changes should repeat the basic elements (form, line, color, and texture) inherent in the characteristic landscape.

Rehabilitation Area. Change is needed or change may add acceptable visual variety to an area. This class applies to areas where the naturalistic character has been disturbed to a point at which rehabilitation is needed to bring it back into character with the surrounding landscape. This class would apply to areas identified in the scenic evaluation where the quality class has been reduced because of unacceptable cultural modification. The contrast is inharmonious with the characteristic landscape. It may also be applied to areas that have the potential for enhancement; i.e., add acceptable visual variety to an area or site. It should be considered an interim or short-term classification until one of the other VRM Class objectives can be reached through rehabilitation or enhancement. The desired VRM class should be identified.

Visual Resources:
The visible physical features of a landscape (topography, water, vegetation, animals, structures, and other features) that constitute the scenery of an area.

Waiver:
A permanent exemption of a stipulation.

Wetlands:
Wetlands are areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and which, under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. BLM Manual 1737, Riparian-Wetland Area Management, includes marshes, shallow swamps, lakeshores, bogs, muskegs, wet meadows, estuaries, and riparian areas as wetlands.

Wildfire:
An unplanned ignition of a wildland fire (such as a fire caused by lightning, volcanoes, unauthorized and accidental human-caused fires) and escaped prescribed fires.

Wildland Fire:
A general term describing any non-structure fire that occurs in the wildland.

Wildland Industrial Interface:
The area where industrial development meets or intermingles with undeveloped wildland.

Wildland-Urban Interface:
The Healthy Forest Recreation Act 2003 defines wildland urban interface (Section 101) as an area within or adjacent to an at risk community that has been identified by a community in its wildfire protection plan or, for areas that do not have such a plan, an area extending; (1) ½ mile from the boundary of an at risk community, or; (2)1½ miles when other criteria are met. (e.g., a sustained steep slope or a geographic feature aiding in creating an effective fire break or is condition class III land, or; (3) is adjacent to an evacuation route.

Wildlife-disturbing Activity:

BLM-authorized activities other than routine maintenance that may cause displacement of or excessive stress to wildlife during critical life stages. Wildlife-disturbing activities include human presence, noise, and activities using motorized vehicles or equipment.

Wind River Indian Reservation:

Indian reservation shared by the Eastern Shoshone and Northern Arapaho tribes of Native Americans in the central western portion of Wyoming. It is the seventh-largest Indian reservation by area in the United States, encompassing a land area of 3,473.272 square miles. It encompasses just over one-third of Fremont County and over one-fifth of Hot Springs County, and the reservation is located in the Wind River Basin, surrounded by the Wind River Mountain Range, Owl Creek Mountains, and the Absaroka Mountains.

Withdrawal:

Removal or withholding of public lands, by statute or Secretarial order, from operation of some or all of the public land laws. A mineral withdrawal includes public lands potentially valuable for leasable minerals, precluding the disposal of the lands except with a mineral reservation clause, unless the lands are found not to contain a valuable deposit of minerals. A mineral withdrawal is the closing of an area to mineral location and development activities.

Yellowcake:

Yellowcake is the product of the uranium extraction (milling) process. Early production methods resulted in a bright yellow compound, hence the name yellowcake. The material is a mixture of uranium oxides that can vary in proportion and color from yellow to orange to dark green (blackish), depending at which temperature the material was dried (level of hydration and impurities). Higher drying temperatures produce a darker, less soluble material. Yellowcake is commonly referred to as U_3O_8 and is assayed as pounds U_3O_8 equivalent. This fine powder is packaged in drums and sent to a conversion plant that produces uranium hexafluoride as the next step in the manufacture of nuclear fuel.

Appendix A. Maps

The maps referenced in this document are for illustrative purposes only and might not accurately reflect all decisions due to the size of the resource area; details can be obscured or not readily apparent, or the size may appear larger on the maps so that the feature stands out when depicted on such a broad scale. In the case of a conflict between the maps and the written decisions that make up the Lander Approved Resource Management Plan, in all cases the written decision prevails and would not be modified by the manner in which the decision is displayed on the maps.

As time permits, the maps will be available as part of this document. Until that action is completed, the maps may be found on the project web page located at: http://www.blm.gov/wy/st/en/programs/Planning/rmps/lander/docs.html.

Map 1. Surface Ownership in the Planning Area

Map 2. Federal Mineral Estate in the Planning Area

Map 3. Dubois Area and General Location Names

Map 4. Riparian Areas

Map 5. Class I Waters

Map 6. Average Annual Precipitation in the Planning Area

Map 7. Surface Slope

Map 8. Soils with Limited Reclamation Potential

Map 9. Locatable Mineral Management

Map 10. Geothermal Energy Management

Map 11. Oil and Gas Management

Map 12. Mineral Material Management

Map 13. Phosphate Management

Map 14. Fire Regime Condition Classifications

Map 15. Fire Management Units

Map 16. Primary Forest Resource Areas

Map 17. Fish-bearing Streams

Map 18. Bighorn Sheep Crucial Winter Range and Parturition Areas

Map 19. Elk Winter Ranges and Parturition Areas

Map 20. Moose Crucial Winter Range

Map 21. Mule Deer Crucial Winter Ranges

Map 22. Pronghorn Crucial Winter Range

Map 23. Identified Big Game Migration Routes and Barriers

Map 24. Special Status Species Greater Sage-Grouse

Map 25. Special Status Species Canada Lynx Analysis Units

Map 26. Special Status Species Desert Yellowhead

Map 27. Wild Horse Herd Management Areas

Map 28. Heritage and Cultural Resources

Map 29. Potential Fossil Yield Classifications

Map 30. Visual Resource Management

Map 31. Lands Identified for Disposal

Map 32. Wind Energy Management

Map 33. Rights-of-Way Management

Map 34. Rights-of-Way Designated Corridors and Communication Sites

Map 35. Trails and Travel Management

Map 36. Trails and Travel Management Over-Snow Travel

Map 37. Trails and Travel Management - Seasonal Limitation to All Travel (Human Presence)

Map 38. Livestock Grazing

Map 39. Recreation Management Areas

Map 40. Recreation Sites

Map 41. Recreation Use Areas

Map 42. National Historic Trails with Associated Sites

Map 43. National Trails Management Corridor

Map 44. Wilderness Study Areas

Map 45. Eligible and Suitable Wild and Scenic River Segments

Map 46. Areas of Critical Environmental Concern

Map 47. Designated Development Area and Areas with Master Leasing Plans in the Planning Area

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Appendix B. Reclamation Objectives and Standards

Reclamation will be required for any surface-disturbing activity occurring on public lands. A reclamation plan that is appropriate in detail and complexity and tailored to the specific surface-disturbing activity will be required for this activity. This appendix details the reclamation objectives and standards necessary to achieve timely and proper recovery according to management objectives of the disturbed site and is consistent with the Wyoming Reclamation Policy.

The reclamation plan will provide both comprehensive and detailed site-specific reclamation procedures, methods, and actions to successfully meet the objectives and standards for any surface disturbance. The reclamation plan will also include sufficient monitoring requirements and reports to ensure reclamation success has been accomplished. Site-specific reclamation plans will identify the dominant Ecological Site Descriptions, referenced plant communities, and soil map units. The approved reclamation plan must adhere to federal, state, and local requirements, which can be used by regulatory agencies in their oversight roles to ensure that the reclamation measures are implemented, are appropriate for the site, meet area resource objectives (such as for wildlife, including greater sage-grouse), and are ecologically functional.

Limited Reclamation Potential areas, as identified in Map 8, will require site-specific measures in the reclamation plan to address the critical characteristics associated with these sites. These critical characteristics include but are not limited to soil erosivity, chemical and physical soil restrictive characteristics, steep slopes, and inadequate effective precipitation.

Project level reclamation objectives and standards will be established prior to disturbance and must be consistent with the objective set forth. The objectives and standards may be modified by the Authorized Officer if site-specific situations are deemed necessary to meet the overall land management objectives. To ensure objectives are being met, they will identify metrics with triggers such as plant composition, percent cover, or other site-specific factors. Reclamation objectives are as follows:

- The objective of interim reclamation in Designated Development Areas is to rehabilitate disturbed sites during the interim phase of development to achieve landscape continuity, minimize non-designated invasive species, and stabilize the soil. Interim reclamation will emphasize native plant species and will be designed to minimize re-disturbance during final reclamation activities and to initiate and accelerate ecological succession.

- Nonnative plants are permissible only as an approved short-term and non-persistent alternative to native plant species. Nonnative plants will not hybridize, displace, or offer long-term competition to the endemic plants, and are designed to aid in the reestablishment of native plant communities.

- The objective of interim reclamation in non-Designated Development Areas is to rehabilitate disturbed sites during the interim phase of development to achieve landscape continuity, minimize non-designated invasive species, and stabilize the soil and to promote a diversified plant community with the end result of accelerating the vegetative successional process to meet wildlife habitat goals. Interim reclamation will emphasize native plant species and will be designed to minimize re-disturbance during final reclamation activities and to initiate and accelerate ecological succession.

- The objective of final reclamation in Designated Development Areas is to rehabilitate disturbed sites to achieve landscape continuity, minimize non-designated invasive species, and provide for a stabilized, ecologically diverse plant community. Final reclamation is successful when a state of ecological progressive succession is achieved that can eventually advance to full ecosystem restoration.

- The objective of final reclamation in the non-Designated Development Areas is to reclaim disturbed sites to achieve landscape continuity, minimize non-designated invasive species, and provide for a stabilized, ecologically diverse plant community that will support approximately similar composition and density of organisms as were originally present. Final reclamation is successful when a state of ecological progressive succession is achieved that can eventually advance to full ecosystem restoration.

- During predisturbance onsites, the Natural Resources Conservation Service (NRCS) Ecological Site Descriptions will be determined, and the operator may explain why a Vegetation Reference Area might be more appropriate for use than the Ecological Site Descriptions, and whether a return to baseline condition is appropriate. The reclamation standard to be applied in determining if interim or final reclamation has been achieved will be part of the National Environmental Policy Act analysis of the action, and the Vegetation Reference Area will be part of at least one alternative analyzed, if requested by the operator.

The tables below list the standards used to determine if reclamation has been achieved for both Designated Development Areas and non-Designated Development Areas.

Interim Reclamation Standards for Designated Development Areas

Reclamation will be considered successful 3 years after seeding if the following criteria are met:

Site Characteristics	Standards
Percent Ground Cover	80 percent of the Erosion indicator as listed on NRCS Reference Sheet for Ecological Site is met
Plant Species Composition (by weight)	● At least 65 percent total plant species must be from major grasses, forbs and/or shrubs listed in the Ecological Site Desired Plant Community and/or BLM-authorized plant species from seeding mix ● No greater than 15 percent of the total reclaimed disturbance will be composed of non-designated invasive species ● No greater than 35 percent of a 500-square-foot contiguous area within a reclaimed disturbance will be composed of non-designated invasive species ● No designated federal and state invasive plant species present
Site Stability, Erosion Potential, and other Variables	Meet NRCS Reference Sheet Indicators for Ecological Site with the following exceptions: ● Soil Surface Structure and Soil Organic Matter content ● Average Percent of Litter Cover and Depth ● Expected Annual Production ● Functional/Structural Groups

BLM Bureau of Land Management
NRCS Natural Resources Conservation Service

Interim Reclamation Standards for non-Designated Development Areas Reclamation will be considered successful 5 years after seeding if the following criteria are met:	
Site Characteristics	**Standards**
Percent Ground Cover	At least 90 percent of the Erosion indicator as listed on NRCS Reference Sheet for Ecological Site is met
Plant Species Composition (by weight)	● At least 75 percent total plant species must be from major grasses, forbs and shrubs listed in the Ecological Site Desired Plant Community and/or BLM-authorized plant species from seed mix ● At least 5 percent of the total plant species must be woody plants as listed in the Ecological Site Desired Plant Community ● At least 5 percent of the total plant species must be forbs as listed in the Ecological Site Desired Plant Community ● No greater than 15 percent of the total reclaimed disturbance will be composed of non-designated invasive species ● No greater than 35 percent of a 500-square-foot contiguous area within a reclaimed disturbance will be composed of non-designated invasive species ● No designated federal and state invasive plant species present
Site Stability, Erosion Potential, and other Variables	Meet NRCS Reference Sheet Indicators for Ecological Site with the following exceptions: ● Soil Surface Structure and Soil Organic Matter content ● Average Percent of Litter Cover and Depth ● Expected Annual Production ● Functional/Structural Groups
BLM Bureau of Land Management NRCS Natural Resources Conservation Service	

Final Reclamation Standards for Designated Development Areas Reclamation will be considered successful after receipt of project abandonment if the following criteria are met:	
Site Characteristics	**Standards**
Percent Ground Cover	90 percent of the Erosion indicator as listed on NRCS Reference Sheet for Ecological Site is met
Plant Species Composition (by weight)	● At least 80 percent total plant species must be from major grasses, forbs and/or shrubs listed in the Ecological Site Desired Plant Community and/or BLM-authorized plant species from seeding mix ● At least 5 percent of the total plant species must be woody plants as listed in the Ecological Site Desired Plant Community ● At least 5 percent of the total plant species must be forbs as listed in the Ecological Site Desired Plant Community ● No greater than 10 percent of the total reclaimed disturbance will be composed of non-designated invasive species ● No greater than 25 percent of a 500 square foot contiguous area within a reclaimed disturbance will be composed of non-designated invasive species ● No designated federal and state invasive plant species present
Site Stability, Erosion Potential, and other Variables	Meet NRCS Reference Sheet Indicators for Ecological Site with the following exceptions: ● Soil Surface Structure and Soil Organic Matter content ● Average Percent of Litter Cover and Depth ● Expected Annual Production ● Functional/Structural Groups
BLM Bureau of Land Management NRCS Natural Resources Conservation Service	

Final Reclamation Standards for non-Designated Development Areas

Reclamation will be considered successful after receipt of project abandonment if the following criteria are met:

Site Characteristics	Standards
Percent Ground Cover	100 percent of the Erosion indicator as listed on NRCS Reference Sheet for Ecological Site is met
Plant Species Composition (by weight)	● At least 85 percent of total plant species must be from dominate grasses, forbs and woody plants listed in the Ecological Site Desired Plant Community and/or BLM-authorized plant species from seed mix ● All major grasses must be present ● Major woody plant species will meet minimum percentage and/or total woody plants present will meet minimum percentage of growth form characteristics listed in the Ecological Site Desired Plant Community. ● At least 3 of the listed forb must be present and at least 5 percent of the total plant species must be forbs as listed in the Ecological Site Desired Plant Community ● No greater than 5 percent of the total reclaimed disturbance will be composed of non-designated invasive species ● No greater than 15 percent of a 500 square foot contiguous area within a reclaimed disturbance will be composed of non-designated invasive species ● No designated federal and state invasive plant species present
Site Stability, Erosion Potential, and other Variables	Meet NRCS Reference Sheet Indicators for Ecological Site with the following exceptions: ● Soil Surface Structure and Soil Organic Matter content ● Average Percent of Litter Cover and Depth ● Expected Annual Production ● Functional/Structural Groups

BLM Bureau of Land Management
NRCS Natural Resources Conservation Service

Monitoring of reclaimed areas will be required and will ensure reclamation standards have been met. Reclaimed areas will be monitored annually by project proponent or Bureau of Land Management (BLM) personnel if designated in the reclamation plan. The reclamation monitoring protocol will be included in the reclamation plan as approved by the BLM.

Reclamation monitoring will be documented in an annual reclamation report submitted to the Authorized Officer by December 31 of each year after one full growing season following seeding. The report will document all aspects of the following:

- The 10 requirements of the Wyoming Reclamation Plan;
- The requirements of the Lander Resource Management Plan reclamation objectives and standards;
- Requirements of the Onshore Oil and Gas Orders;
- Identify whether the reclamation objectives and standards are likely to be achieved in the near future without additional actions; and
- Identify actions that have been or will be taken to meet the objectives and standards.

The report will also include acreage figures for the following:

- Initial disturbed acres;
- Successful interim reclaimed acres; and/or
- Successful final reclaimed acres.

Annual reports will not be submitted for approval by the Authorized Officer as having fully met interim or final reclamation standards. Any time 15 percent or more of an interim reclaimed area is re-disturbed, monitoring will be reinitiated. Actions will be taken to ensure that reclamation standards are met as quickly as reasonably practical. The Authorized Officer will be notified in a separate document by the project proponent when reclamation operations have been completed that indicate the site meets reclamation standards and is ready for final inspection.

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Appendix C. Exception, Modification, and Waiver Criteria, Avoidance Criteria, and Special Management for Designated Corridors

C.1. Introduction

This appendix addresses the procedure for providing exceptions, modifications, and waivers of stipulations or Conditions of Approval placed on oil and gas leases and other surface disturbance and disruptive activity authorizations, and avoidance criteria for rights-of-way (ROWs), to protect resource values. These values generally include wildlife, soil, water, recreation, visual, and cultural resources. Criteria applicable to designated corridors are provided.

Oil and Gas

The Bureau of Land Management (BLM) may apply stipulations or Conditions of Approval identified in the Oil and Gas Stipulations (Appendix I (p. 259)) and the Wyoming BLM Mitigation Guidelines for Surface-Disturbing and Disruptive Activities (Appendix H (p. 253)). Oil and gas leases will have applicable stipulations attached at the leasing stage. For surface-disturbing and disruptive activities occurring within Designated Development Areas, stipulations will be reviewed during the National Environmental Policy Act (NEPA) process and will not be applied unless required to follow federal laws and policies or the BLM identifies a site-specific real-time need for the stipulation. Review of requests for exception within Designated Development Areas will be expedited. Refer to Appendix F (p. 233) for the application of stipulations or Conditions of Approval inside and outside of Designated Development Areas.

The three types of surface stipulations the BLM applies are (1) no surface occupancy (NSO), (2) timing limitation stipulation, and (3) controlled surface use (CSU). These surface stipulations are defined below.

- **No Surface Occupancy:** Areas closed to placement of surface facilities such as roads, oil and gas wells, and other facilities. This stipulation may be applied to oil and gas leases only before a lease is issued.

- **Timing Limitation Stipulation:** Areas closed to construction and development activities during identified timeframes. The timing limitation stipulations apply to maintenance activities, including associated vehicle travel, during the closed period unless otherwise specified in the stipulation.

- **Controlled Surface Use:** Areas where surface uses are subject to specified controls or constraints.

The BLM cannot apply an NSO stipulation after oil and gas lease issuance, but can apply timing limitation stipulations and CSU restrictions as Conditions of Approval after the oil and gas lease has been issued.

An applicant can request an exception, modification, or waiver of an NSO, timing limitation stipulation, or CSU stipulation or a condition of approval. This document identifies the criteria that the BLM would utilize in making the determination to except, modify, or waive the stipulation or condition of approval. The Resource Management Plan (RMP) serves as the vehicle for providing analysis of the conditions under which waivers, exceptions, or modifications of lease stipulations or Conditions of Approval may be granted.

A request for exception must be initiated in writing before the time that the work was originally proposed to conclude. The unpredictability of weather, animal movement and condition, etc., precludes analysis of requests related to wildlife far in advance of the time periods in question. However, where possible, the applicant should seek the exception at least two weeks in advance. Analyses of a request include review of potential mitigation measures and alternatives (e.g., traffic restrictions, alternative scheduling, and staged activity). The request is considered as a unique action and is analyzed and documented individually for RMP and NEPA compliance.

Exception requests will not be granted for stipulations or operating standards designed to protect threatened and endangered species, unless the BLM consults with the U.S. Fish and Wildlife Service and reinitiates consultation, if appropriate.

C.2. Exceptions, Modifications, and Waivers

An applicant may request an exception, modification, or waiver of a stipulation or restriction included in a lease or applied as Conditions of Approval, as defined below.

- **Exception:** A one-time exemption to a lease stipulation or condition of approval determined on a case-by-case basis. Exceptions are granted infrequently and generally only for wildlife timing limitations.

- **Modification:** A change to the provisions of a lease stipulation, either temporarily or for the term of the lease. Modifications are even more infrequent than exceptions and require unique circumstances.

- **Waiver:** A permanent exemption to a lease stipulation. A waiver is rarely given.

The person requesting the exception, modification, or waiver is encouraged to submit information that might assist the authorized official in making a decision. The Authorized Officer reviews information submitted in support of the request and other pertinent information. The Authorized Officer may modify, waive, or grant an exception to a stipulation if:

- The action is consistent with federal laws.
- The action is consistent with the RMP.
- The management objectives that led the BLM to require the lease stipulation can be met without restricting operations in the manner provided for by the stipulation given changes in the condition.
- The action and the impacts that would result are acceptable to the Authorized Officer based on a review of the environmental consequences.

C.3. Standard Exception

An exception may be granted by the Authorized Officer if it can be demonstrated that the ground-disturbing activity/lease stipulation would not cause adverse impacts to the targeted resource, condition, or public interest as defined by RMP objectives, standards, or conditions and:

1. is intended to improve the targeted resource, condition, or public interest (e.g., vegetation treatment in an NSO area to improve wildlife habitat, trail construction in a NSO/CSU area for a Special Recreation Management Area (SRMA) to improve recreational opportunities), or
2. the ground-disturbing activity (mentioned above), by its nature, must be done within the targeted NSO/CSU area (e.g., spring development within a NSO area for riparian-wetland vegetation, installation of brook trout stream barrier in a NSO area for cutthroat trout, or short duration road maintenance).

In situations where a ground-disturbing activity/lease stipulation is excepted, the activity could be subject to additional Conditions of Approval, reclamation measures, or best management practices. Measures applied will be based on the nature, extent, and values potentially affected by the ground-disturbing activity. Excepted ground-disturbing activities/lease stipulations are given on a one-time case-by-case basis and would not necessarily constitute subsequent approvals.

C.4. Resource Specific Exceptions

C.4.1. Wildlife

Activities within the planning area are managed with stipulations or Conditions of Approval to protect important times of the year and habitats for wildlife. A NSO or CSU stipulation may be placed on oil and gas leases to protect greater sage-grouse breeding areas or habitat for other special status species from surface-disturbing activities. Timing limitation stipulations or Conditions of Approval may be used to protect wintering or birthing big game, nesting greater sage-grouse, raptor, mountain plovers, or spawning trout. Protective wildlife seasonal restrictions are developed consistent with statewide dates and in coordination with the Wyoming Game and Fish Department and/or the U. S. Fish and Wildlife Service.

The BLM may grant exceptions to seasonal restrictions if the BLM determines that granting an exception would not jeopardize the wildlife population being protected. The BLM uses a set of factors when considering a request for an exception. The professional judgment of the BLM and the wildlife agencies play a key part in the BLM's decisions on whether to grant exceptions. No clear-cut formula exists.

Appendix I (p. 259) identifies standard stipulations, lease notices, and lease stipulations as well as resource protection stipulations based on decisions in this Approved RMP. This appendix provides the approach that will be taken by the Lander Field Office in processing exception requests.

The following section describes some of the factors considered by the BLM when determining whether a request for an exception to wildlife seasonal stipulations or Conditions of Approval should be granted.

1. Resource Concern

- Animal presence or absence
- Additional or new resource concerns
- Potential for increased wildlife accidents or poaching

2. Animal Conditions

- Physical condition of individual animals (e.g., fat reserves)
- Local animal population condition (animal density)
- Potential for additive mortality
- Likelihood of introduction or increased incidence of disease
- Likelihood of decreased recruitment/natality

3. Climate/Weather

- Snow conditions (depth, crusting, and longevity)
- Current and historic local precipitation patterns
- Current and historical seasonal weather patterns
- Recent and current wind-chill factors (indication of animals' energy use)
- Duration of condition
- Short- and long-range forecasts

4. Habitat Condition and Availability

- Water and forage condition (availability, quality, and quantity)
- Competition (interspecific and intraspecific)
- Animal use of available forage
- Suitable and ample forage immediately available and accessible

5. Spatial Considerations

- Migration/travel corridors
- Winter range, foraging, parturition or breeding
- Topography (e.g., plains or mountains)
- Topographic/geographic limitations (barriers)
- Presence of thermal cover (e.g., protection from wind)
- Proportion of range impacted
- Juxtaposition and density of other activities/disturbances in the vicinity
- Cumulative impacts

6. Timing

- When proposed activity would occur in the stipulation period
- Kind and duration of potentially disruptive activity
- Likelihood of animals habituating to the proposed activity

C.4.2. Cultural Resources

The areas around and including special Sacred, Spiritual, and/or Traditional Cultural Properties such as Castle Gardens (called "restriction zones") are managed with surface occupancy and disturbance stipulations that vary by alternative. The BLM may grant exceptions to these stipulations subject to Standard Protocol and National Historic Preservation Act measures. The BLM would consult with affected tribes to ascertain their opinion on the proposal. The BLM would follow the tribes' opinion regarding restriction zone activities in all but the most extraordinary circumstances.

C.4.3. Oil and Gas Actions

Title 43 Code of Federal Regulations 3101.1-4 establishes procedures for granting modifications or waivers to oil and gas lease stipulations, as stated below:

> A stipulation included in an oil and gas lease shall be subject to modification or waiver only if the Authorized Officer determines that the factors leading to its inclusion in the lease have changed sufficiently to make the protection provided by the stipulation no longer justified or if proposed operations would not cause unacceptable impacts. If the Authorized Officer has determined, prior to lease issuance, that a stipulation involves an issue of major concern to the public, modification or waiver of the stipulation shall be subject to public review for at least a 30-day period. In such cases, the stipulation shall indicate that public review is required before modification or waiver. If subsequent to lease issuance the Authorized Officer determines that a modification or waiver of a lease term or stipulation is substantial, the modification or waiver shall be subject to public review for at least a 30-day period.

The modification or waiver of an oil and gas lease stipulation implies that the sensitive resource for which the protective measure was considered is in some way not present in the area or in some way no longer in need of the protective measure. In either case, consideration of a modification or waiver of a lease stipulation would require environmental analysis and may result in an amendment to the land use plan.

C.5. Procedures for Exceptions

Requests for exceptions may, in general, be made at any time. In the case of seasonal restrictions for the benefit of wildlife, the request should be made within two weeks of conducting the proposed work. The unpredictability of weather, animal movement and condition, precludes analysis of requests related to wildlife concerns far in advance of the time periods in question. The request is considered as a unique action and is analyzed and documented individually for RMP and NEPA compliance. The request must include the following information:

WHY the public land user needs the exception. Include the reason(s) why the action could not be completed within the original stipulation period, any evidence of why the action would not adversely affect the resource or species being protected, or any other information (additional mitigation measures or alternatives) that would help the BLM (and Wyoming Game and Fish Department or U. S. Fish and Wildlife Service) in reviewing the request.

WHO is filing the exception request. This must include the company name, the name of the contact person, and the address, telephone number, e-mail address (if available), and fax number of the contact person.

WHAT is being requested. This must include a detailed description of the activity including types of equipment or vehicles required and the number of trips expected. Please include the name and/or number of the authorization (i.e., application for permit to drill, sundry, ROW) and the affected stipulation/restriction.

WHERE the activity would take place. This must include the legal description of the activity, the location of the access roads and pipelines, and a map clearly depicting these areas. Proponent prepared Geographic Information System layers meeting BLM requirements will expedite the processing.

WHEN the activity would occur. This must include the start date, end date, and time of day/night when activities would occur.

Requests must be made in writing and hard copy delivered to the Lander Field Manager at the physical address of the office. When time is of the essence, the process may be initiated by fax or electronic delivery of a scanned copy but the original must be received by the Lander Field Office within three working days. No exception, waiver, or modification will be issued until the hard copy request is received.

The BLM may consider verbal requests for and grant verbal approvals of exceptions in Designated Development Areas. However, the operator must submit a written notice within seven days after the verbal request. A verbal request is considered a unique action and should be used only if serious economic or public health and safety problems could result from denial of the request.

Exceptions will not be granted for stipulations or Conditions of Approval resulting from Section 7 consultation regarding the Endangered Species Act with the U.S. Fish and Wildlife Service for listed species unless a Biological Assessment is completed and reinitiation of Section 7 consultation occurs. This process, depending on the potential impacts and whether incidental take is involved, typically requires three to six months for completion. The operator or lease holder is responsible for the Biological Assessment, which must be satisfactorily completed in accordance with the requirements of the BLM.

C.6. Rights-of-Way

Vegetation Criteria Considered for Projects Proposed in Right-of-Way Avoidance Areas

Projects proposed for construction in avoidance areas will be considered on a case-by-case basis and must incorporate site-specific mitigation measures aimed at addressing resource concerns on the site. Exceptions may be granted in avoidance areas if the following criteria are met (this list is not all-inclusive):

- ROW proposals that are co-located with existing disturbances where little to no vegetation disturbance is anticipated.
- Slopes of less than 8 percent or, pitch grades above 8 percent of less than 300 feet. Projects that will be constructed on slopes (including pitch grades) in excess of 8 percent must be accompanied by specific stabilization measures for these grades incorporated into the project reclamation plan prior to approval. The use of cover crops is acceptable for stabilization provided that the species utilized meets the Wyoming Reclamation Policy and will ultimately result in compliance with the Reclamation Objectives and Standards identified in Appendix B (p. 187).
- Soil depths of less than 20 inches to the restrictive layer may be considered on a case-by-case basis contingent on the slope, soil chemistry, and erosion potential being adequate to support successful reclamation on the site.
- Soils with low to moderate wind and water erosion potential may be considered. Projects proposed on soils with high wind and water erosion potential may only be considered where topography and cover are adequate to support successful reclamation on the site.
- Prior to ROW approval, the proposed site must be inventoried for the presence of threatened, endangered, and special status plant species. Where populations of threatened, endangered,

and special status plant species will be adversely impacted, the ROW proposal shall be denied.

- Prior to ROW approval, the proposed site must be inventoried for the presence of invasive, noxious, and nonnative species.
- All invasive plant species must be treated (chemical, biological, and/or mechanical) prior to disturbance of the site.
- Invasive and nonnative species identified in concentrations of less than 5 percent of the total vegetation within the disturbance footprint or less than 15 percent within a 500-square-foot area may be considered. Projects proposed in vegetation populations exceeding these limitations shall be denied.
- Invasive species management plans must be incorporated into the reclamation plan, and all invasive and nonnative species must be treated (chemical, biological, and/or mechanical) prior to disturbance of the site.
- Construction that will occur in areas dominated by invasive nonnative species shall have vehicle wash stations established at the site (two wash stations for linear features at the beginning of the infestation and at the end). All vehicles entering and exiting the site must be washed prior to continuing construction.
- ROW proposals within 500 feet of riparian-wetland areas shall be denied unless they are determined to be unavoidable and impacts can be sufficiently mitigated.

Wild Horse Criteria

- As new project developments are considered, a careful evaluation must take place to determine if wild horse displacement will increase, and if the displacement will be short or long term. Long-term displacement could lead to changes in use patterns, herd dynamics, and unforeseeable environmental influences to the herd.
- Proposed range improvements and other surface-disturbing and disruptive activities will be subject to reclamation standards and mitigation requirements established under Appendix B (p. 187) and Appendix H (p. 253) of the Approved RMP.
- If new fencing projects are being proposed in Herd Management Areas and ROW avoidance areas, careful evaluation must take place to determine the direct, indirect, and cumulative impacts to wild horse herds. New fencing must show a neutral or beneficial impact for wild horses. Mitigation, such as the construction of “let-down” fences instead of permanent fencing, often reduces the risk of wild horses not being able to migrate from one part of the Herd Management Area to another.
- Proposals for the construction of new water developments in Herd Management Areas must analyze all impacts to horses. While the construction of new water developments can be beneficial, careful evaluation must be made to ensure they do not create unintended consequences, such as leading horses outside the boundaries of their Herd Management Area or impacting wildlife crucial winter range.
- All vegetation manipulation and land treatment proposals in ROW avoidance areas, including prescribed burns, will be analyzed to ensure proper rest and reclamation success are achieved after project implementation. Ensure that all protective fencing or other infrastructure installed to protect treatment area(s) is compatible with wild horse use and movement.
- Ensure that any new developments in ROW avoidance areas preserve and maintain a healthy and viable wild horse populations that will survive and be successful in the Herd Management Area during poor years when elements of the habitat are limiting due to severe winter conditions, drought, or other uncontrollable and unforeseeable environmental influences to the herd.

Wildlife Criteria Considered

The BLM will use the following questions and/or criteria for wildlife and fish resources, including species listed as endangered, threatened, proposed, or candidate under the Endangered Species Act, or listed on the Wyoming BLM Sensitive Species List, when addressing proposals for projects in ROW avoidance areas. Proposals will be considered on a case-by-case basis. In project-level environmental impact statements and environment assessments, require, on a case-by-case basis, the development of a wildlife resource monitoring and mitigation plan to address potential impacts from ROW authorizations on wildlife populations and/or habitat.

- Is there existing disturbance in the project area? If yes, what kinds of disturbance and what is the affected acreage? What is the expected number of acres of disturbance that would be added to the existing disturbance total?
- Is there habitat for threatened or endangered species or BLM Sensitive Species listed in the project area? If threatened and endangered species are present, the project will not be authorized. If BLM Sensitive Species are present, how many acres of this habitat are present in the surrounding area and how many acres would be impacted by the project?
- Does the area contain habitats critical in supporting and/or maintaining regionally important wildlife populations (big game crucial winter range, breeding/birthing/parturition habitat, and greater sage-grouse winter concentration areas)? If yes, what type of habitat would the project be in and for what species?
- Can the project be conducted and/or constructed entirely outside critical periods for wildlife (breeding, nesting, parturition, and winter)?
- Can the project be co-located entirely within existing disturbance? If no, how many acres of new disturbance would occur and how many acres of existing disturbance are in the project area?
- For projects that are not co-located, will the project result in short-term or long-term loss of habitat?
- Will the project lead to degradation of adjacent habitat from migration of surface disturbance, access to new area, weeds, etc.?
- Will the project cause wildlife to avoid the area? Will the project result in a short-term or long-term disruption to wildlife? What is the project life?
- Will the project lead to continued disruption to wildlife from site visitation and/or maintenance activities?
- Will the location of the project result in functional loss of habitat due to fragmentation?
- Will authorizing the project lead to additional requests for projects in the same area?
- Are there hazards to wildlife associated with proposed project infrastructure?
- Does the project proponent identify adequate reclamation methods and timeframes?
- Does negating and/or minimizing impacts to wildlife cause impacts to other resources identified as needing the area designated as an "avoidance area"?

Bison Basin Designated Corridor Criteria

- Beaver Rim Area of Critical Environmental Concern is excluded.
- Plant: Critical Yermo habitat is excluded.
- Wildlife: Aggressive and accelerated reclamation plans for disturbances, including utilizing native plant tubelings to simulate predisturbance conditions.
- Visual Resource Management (VRM): Meet all VRM class objectives.
- VRM: Within view of the Continental Divide National Scenic Trail and the Sixth Crossing Visitors' Center, keep all new surface disturbances within the existing county road

disturbance, keep all aboveground pipeline facilities out of view, and minimize use of pipeline markers and adjust placement to protect resource values.

- Cultural Resources: Within view of the National Historic Trails, keep all surface disturbance within existing county road disturbance, minimize the use of pipeline markers, and keep all aboveground pipeline facilities out of view.

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Appendix D. Lander Air Resources Management Plan

D.1. Purpose

The purpose of this air resources management plan is to address air quality issues identified by the Bureau of Land Management (BLM) in its analysis of potential impacts to air quality resources for the Lander Field Office Resource Management Plan (RMP). This plan outlines the specific objectives for managing air resources and authorizing activities that have the potential to adversely impact air resources within the Lander Field Office planning area. The plan also outlines specific informational requirements and mitigation measures that may apply to projects that have the potential to generate air emissions and adversely impact air resources within the planning area. Initially, the plan was utilized to compare impacts to air resources by alternative. As part of the Approved RMP, this plan will guide air analyses as the RMP is implemented and the BLM evaluates future projects in National Environmental Policy Act analysis.

D.2. Air Quality Issues

The BLM based its identification of air quality issues in the Draft and Final Environmental Impact Statements (EISs) on the following information:

- The air emissions inventory compiled for the planning area, which estimated potential emissions of air pollutants for anticipated allowable development and authorizations under each alternative.
- Existing air monitoring data from the South Pass Special Purpose Monitor site, Lander State and Local Air Monitoring Station, the South Pass City and Sinks Canyon National Atmospheric Deposition Program sites, and the Bridger and North Absaroka Interagency Monitoring of Protected Visual Environments sites.
- The Reasonable Foreseeable Development Scenario for Oil and Gas (BLM 2009c), Mineral Occurrence and Development Potential Report (BLM 2009b), and potential levels and location of development identified in Chapter 4 of the Proposed RMP and Final EIS.
- Air emissions from oil and gas activities assume that all of the potential development identified in the Reasonable Foreseeable Development will occur. The Reasonable Foreseeable Development is based upon known geologic conditions, current development technology, and industry-provided data about future planned development. Future pricing and economic or technical viability of geologic plays were not taken into account. Air emissions from non-oil and gas mineral development, such as uranium mining, were calculated assuming maximum development scenarios even though these activities are vulnerable to economic variability. Assumptions regarding the use of air emission control technologies were also very conservative. For example, air emissions from drilling activities assume a mixture of Tier 1 – Tier 3 diesel engines. However, it is likely that significant improvement in emissions could be realized over the life of the plan through the use of alternative drilling technologies.

D.2.1. Magnitude of Emissions

Despite the limitations of the air emissions inventory, it supports one major conclusion which formed the foundation for the provisions of this plan with an emphasis on mineral development in general, and oil and gas development in particular: oil and gas development activities are the major contributor to total air emissions and non-oil and gas mineral development activities (mining) are the major contributor to particulate matter emissions in the planning area.

While the BLM has discretion to make allocative decisions for BLM-adminstered lands, due to the high percentage of existing leases in areas with potential oil and gas development (approximately 93 percent) the ability to implement substantial restrictions on development is primarily limited to mitigation measures that can be applied during project approval. Such restrictions include cooperative development of project-specific measures to minimize impacts to air resources as outlined in this plan.

D.2.2. Pollutants of Concern

Air monitoring data from the South Pass Special Purpose Monitor site located on the southwestern edge of the planning area measured ozone concentrations above the National Ambient Air Quality Standards during the 2008-2010 time period. Seven exceedances of the 8-hour ozone standard above 75 parts per billion were recorded in 2009, while 1-hour values at or above 75 parts per billion were recorded twice in 2008 and once in 2010. The South Pass monitor was the only monitor measuring ozone within the planning area during the 2008-2010 period. It is difficult to determine if ozone concentrations above the National Ambient Air Quality Standards are occurring throughout the planning area or if the high concentrations are unique to the South Pass area. The Wyoming Department of Environmental Quality (DEQ) Air Quality Division has determined that three stratospheric intrusions caused three periods in February through March 2009 where ozone exceedances occurred at the South Pass, Wyoming, monitor. The emissions inventory shows that estimated emissions from BLM-authorized activities such as oil and gas development have the potential to cause or contribute to increased levels of ozone due to increased emissions of ozone-forming precursor pollutants (nitrogen oxides [NO_x] and volatile organic compounds [VOCs]). Therefore, the BLM has identified ozone and the precursors, NO_x and VOCs, as pollutants of concern to be addressed through specific management actions described in this plan.

Air monitoring data from the residential State and Local Air Monitoring Station monitor located in the town of Lander shows that the 98th percentile of 24-hour average concentrations for particulate matter less than 2.5 microns in diameter ($PM_{2.5}$) averaged over the three year period 2008-2010 is approximately 30 micrograms per cubic meter ($\mu g/m^3$) or 87 percent of the National Ambient Air Quality Standards. However, the annual average of $PM_{2.5}$ concentrations at the same site over the same time period is approximately 8.4 $\mu g/m^3$ or 56 percent of the National Ambient Air Quality Standards. It is likely that the short-term high concentrations in $PM_{2.5}$ are due to wintertime woodstove use and natural events such as wildfires or high wind events having a localized impact in the town of Lander. However, it is difficult to support this conclusion due to a lack of other $PM_{2.5}$ monitoring data within the planning area to serve as a basis for comparison to the Lander $PM_{2.5}$ data. The emissions inventory shows that estimated emissions from BLM-authorized activities such as mining and vegetation management through prescribed fire may have the potential to cause or contribute to short-term localized increases in levels of

$PM_{2.5}$. Therefore, the BLM has identified $PM_{2.5}$ as a pollutant of concern to be addressed through specific decisions of this plan.

Representative air monitoring data for hazardous air pollutants is not available for the planning area; however, increases in estimated emissions of a subset of these pollutants was shown through the compilation of the emissions inventory. Specifically, emissions of benzene, toluene, ethyl benzene, xylenes, n-hexane, and formaldehyde were estimated to increase due primarily to development of oil and gas resources. Emissions of these pollutants from leaks, venting, internal combustion, and flaring associated with BLM-authorized oil and gas development have the potential to result in short-term, near-field increases in concentrations of these pollutants. Therefore, the BLM has identified this subset of hazardous air pollutants as pollutants of concern to be addressed through specific management actions described in this plan.

D.2.3. Air Emission Generating Activities

Air emissions were estimated for 11 different categories of activities that the BLM authorizes, allows, or performs and that have the potential to emit regulated air pollutants. The estimated emissions were used to identify activities that have the potential to contribute to increased concentrations of regulated air pollutants and to determine those activities that warrant specific management strategies for minimizing air quality impacts.

Oil and gas development activities were identified as the major contributor to increases in emissions of NO_x, VOC, and hazardous air pollutants. Non-oil and gas mineral development activities, specifically sand and gravel mining and processing, and other solid minerals mining were identified as the major contributor to increases in particulate matter emissions.

D.2.4. Geographic Areas of High Potential for Development

The Mineral Occurrence and Development Potential Report and the Reasonable Foreseeable Development Scenario for Oil and Gas identified geographic areas of high, moderate, and low development potential for conventional oil and gas, coalbed natural gas, and locatable and salable minerals.

One area was identified within the planning area as high potential for conventional oil and gas development and is located in the northeast corner of the planning area surrounding the town of Lysite. This area is comprised of the existing and proposed expansion of oil and gas development units. Areas of moderate potential for oil and gas development have been identified in the central portion of the planning area surrounding the Beaver Creek unit and in the southern portion of the planning area overlapping the Fremont-Sweetwater county border. Moderate potential for coalbed natural gas development has been identified in these same two areas.

This Approved RMP identifies Designated Development Areas (Map 47) based on locations of high and moderate potential oil and gas and uranium development and a need to protect other resources. The intention of these Designated Development Areas is to maximize potential oil and gas and uranium development in defined locations while minimizing impacts to other natural resources across the planning area. The locations of these Designated Development Areas provide the following benefits to air resources:

- Encourages development in areas of existing development thereby reducing impacts to air from new construction, new production facilities, and new compression sources that would be required in undeveloped fields;
- Encourages future development in areas located downwind of and over 50 kilometers (31 miles) from the nearest federally designated Class I area;
- Downwind impacts from the Designated Development Areas are not likely to impact Class I or sensitive Class II areas, or major population centers;
- Encourages future oil and gas development in geographic areas with relatively consistent west-southwesterly winds thereby minimizing potential for stagnation and cold pooling that can lead to increased ozone formation;
- Encourages future development in areas a considerable distance from major population centers; and
- Excludes oil and gas development in the Dubois area, an area of air quality sensitivity due to its proximity to federally designated Class I and identified sensitive Class II areas.

Geographic areas of high, moderate, and low potential for locatable minerals (specifically uranium, phosphate, bentonite, and gold) and salable minerals (specifically sand and gravel) were identified within the planning area. The Approved RMP closes specific areas to mineral materials disposal (Map 12), and identifies areas where locatable mineral withdrawals are recommended (Map 9). When these restrictions are considered in concert with the geologic locations of non-oil and gas minerals, likely locations for non-oil and gas minerals development are constrained to areas located primarily in the central and southern portions of the planning area. These potential areas of development are located in geographic areas with relatively consistent west-southwesterly winds. Because particulate matter emissions are the primary pollutant of concern associated with non-oil and gas minerals development there is a potential for high winds in these areas to contribute to short-term increases in fugitive dust emissions from storage piles, wind erosion, and construction activities. Although the likely locations for development are not near population centers, they are located downwind from Class I and sensitive Class II areas. Table D.1, "Class I and Class II Areas in the Vicinity of the Planning Area" (p. 207), displays Class I and II areas in the vicinity of the planning area.

Table D.1. Class I and Class II Areas in the Vicinity of the Planning Area

Area Type	Area Name	Closest Distance to the Lander Planning Area (miles)	Direction from the Lander Planning Area	Clean Air Act Status of the Area
National Park	Grand Teton National Park	20	West	Class I
	Yellowstone National Park	25	West	Class I
Recreation Area	Bighorn Canyon National Recreation Area	90	North	Class II
Wilderness Area	Cloud Peak Wilderness Area	60	Northeast	Class II
	North Absaroka Wilderness Area	80	Northwest	Class I
	Washakie Wilderness Area	40	Northwest	Class I
	Fitzpatrick Wilderness Area	In the planning area	N/A	Class I
	Popo Agie Wilderness Area	In the planning area	N/A	Class II
	Bridger Wilderness Area	Adjacent	West	Class I
	Teton Wilderness Area	30	Northwest	Class II
National Forest	Bighorn National Forest	60	Northeast	Class II
	Thunder Basin National Grassland	90	East	Class II

Source: National Park Service 2006

N/A Not Applicable

D.2.5. Summary of Air Quality Issues

- Recent measurements at an air monitoring station in the planning area show that measured ambient concentrations of ozone have, on several occasions, exceeded the current ozone National Ambient Air Quality Standards of 75 parts per billion.
- The emissions inventory showed potentially significant increases in estimated emissions of ozone forming pollutants (NO_x and VOCs) which could result in increased concentrations of ozone if oil and gas resources are authorized and developed to full potential. In addition, potential increases in hazardous air pollutant and $PM_{2.5}$ emissions and corresponding short-term increases in ambient concentrations could result if all activities are authorized and developed to full potential.
- The air analysis for the RMP showed that oil and gas development activities have the potential to be the major contributor to estimated NO_x, VOC, and hazardous air pollutant emissions. Non-oil and gas mineral development activities (i.e., sand and gravel extraction, bentonite, uranium, and gold mining) have the potential to be the major contributor to estimated $PM_{2.5}$ emissions.

- The geographic areas identified as having high potential for oil and gas or non-oil and gas minerals development are located in areas that are unlikely to impact Class I or sensitive Class II areas or major population centers.

D.3. Field Office Air Resource Management Plan Components

The Lander Field Office has the responsibility to implement the decisions of the RMP in a manner that protects air quality while recognizing valid and existing leasing rights. Within the planning area, most areas with high and moderate oil and gas development potential are already leased. While the BLM has limited ability to alter the conditions of existing leases, it can require specific actions and measures necessary to protect air quality in response to identified or anticipated adverse impacts at the project-level stage.

Development and implementation of appropriate protection measures is most effective at the project approval stage because the proposed action has been defined and impacts to air quality are better able to be identified through National Environmental Policy Act analysis. As part of the project approval process, the BLM will identify project-specific measures in response to identified impacts to air resources, as outlined in this air resources management plan.

D.3.1. Authorization of Air Emission Generating Activities

D.3.1.1 The BLM has the authority and responsibility under Federal Land Policy and Management Act to manage public lands in a manner that will protect the quality of air and atmospheric values. Therefore, the BLM may manage the pace, place, density, and intensity of leasing and development to meet air quality goals.

D.3.1.2 The BLM will, prior to authorization of any activity that has the potential to emit any regulated air pollutant, consider the magnitude of potential air emissions from the project or activity, existing air quality conditions, geographic location, and issues identified during project scoping to identify pollutants of concern and to determine the appropriate level of air analysis to be conducted for the project. This analysis may include: obtaining additional air monitoring data, air dispersion modeling, photochemical grid modeling, and/or mitigation measures in addition to any applicable regulatory emission limits and standards.

D.3.1.3 The BLM will require project proponents to supply the information described in Section D.4.1, D.4.2, and D.4.3, and apply appropriate mitigation measures consistent with Section D.4.4 of this plan. The BLM will review any project-specific emissions inventory submitted as required under Section D.4.1 to determine its completeness and accuracy.

D.3.1.4 In areas where Wyoming DEQ approved (or equivalent) air monitoring data shows that ambient air concentrations of a regulated pollutant are at or above 85 percent of the applicable National Ambient Air Quality Standards or Wyoming Ambient Air Quality Standard, the BLM will require the proponent for any project that has the potential to emit the pollutant or precursors to the pollutant to comply with (a) or (b) below:

a. Demonstrate that the project will result in no net increase in annual emissions of the pollutant as measured at the nearest WDEQ approved monitoring station for the life of the project (e.g., through the application of emission control technologies, offsets, or other air emission reducing strategies); or,

b. Demonstrate that the project is not likely to cause or contribute to a violation of the ambient air quality standard through a quantitative air quality analysis (e.g., air dispersion modeling, photochemical grid modeling, or an equivalent level of analysis).

D.3.1.5 Ambient air monitoring data in the planning area shows that existing concentrations of ozone are at a level of concern to the BLM and the emissions inventory for the Approved RMP shows that oil and gas development activities have the potential to be a major contributor to ozone-forming pollutant emissions. Therefore, the requirements of D.3.1.4 apply and project proponents for oil and gas development activities within the planning area must provide information consistent with (a) or (b) below:

a. Demonstrate that the project is not likely to cause a net increase in annual emissions of NO_x and VOCs as measured at the nearest WDEQ approved monitoring station for the life of the project (e.g., through the application of emission control technologies, offsets, or other air emission reducing strategies); or,
b. Demonstrate that the project is not likely to cause or contribute to a violation of the ambient air quality standard for ozone through a quantitative air quality analysis (to include photochemical grid modeling, or an equivalent level of analysis).

D.3.1.6 Ambient monitoring data within the planning area shows that existing concentrations of $PM_{2.5}$ are at a level of concern to the BLM and the emissions inventory for the Approved RMP shows that non-mineral development and prescribed fire activities have the potential to contribute to increases in $PM_{2.5}$ ambient concentrations. Therefore, prior to BLM approval of a project that is likely to contribute to short-term increases in $PM_{2.5}$ ambient concentrations, the BLM will require any non-oil and gas mineral development project proponent to:

a. demonstrate that it has applied for and obtained any required air permit from Wyoming DEQ,
b. demonstrate that the project is not likely to cause or contribute to a violation of the applicable ambient air quality standard, and
c. provide a plan for controlling and minimizing fugitive dust emissions.

Prescribed fire projects will be required to minimize impacts to air quality, and will comply with local and state smoke management plans and regulations.

D.3.2. Monitoring

The comprehensive air management plan for the planning area includes the following ambient air monitoring measures includes the following air quality modeling measures:

- The BLM will work cooperatively with Wyoming DEQ to determine the best mechanism to submit, track, and approve project-specific pre-construction monitoring or monitoring data required in a project-specific record of decision (ROD),
- The BLM will work cooperatively with the Wyoming DEQ to share data collected from the existing BLM-operated Wyoming Air Resource Monitoring System network and to support the Wyoming DEQ's air monitoring network through siting, operation, and funding of additional monitoring sites,
- The BLM will continue to fund and operate the National Atmospheric Deposition Program monitoring site at Sinks Canyon.
- The BLM may require project proponents to conduct pre-construction and/or project air monitoring as described in Section D.4.2.

D.3.3. Modeling

The BLM recognizes that air dispersion and photochemical grid models are useful tools for predicting project specific impacts to air quality, predicting the potential effectiveness of control measures and strategies, and for predicting trends in regional concentrations of some air pollutants. The comprehensive air management plan for the planning area includes the following air quality modeling measures.

- The BLM will require project-specific air quality modeling as outlined in Section D.4.
- The BLM will ensure that project-specific modeling is carried out in accordance with Environmental Protection Agency modeling guidelines and in cooperation with the air quality interagency review team.
- The BLM will support and participate in regional modeling efforts through multi-state and/or multi-agency organizations such as the Western Governor’s Association – Western Regional Air Partnership, the Federal Leadership Forum, and Wyoming DEQ’s Ozone Technical Forum and Resource Directory.
- The BLM will require modeling that assesses impacts to air quality and/or air-quality related values if a proposed action meets at least one of the following conditions in each category:
  - Emissions/Impacts. The proposed action is anticipated to cause a substantial increase in emissions based on the emissions inventory, or will materially contribute to potential adverse cumulative air quality impacts as determined under the National Environmental Policy Act.
  - Geographic Location. The proposed action is in:
    - Proximity to a Class I or sensitive Class II Area; or
    - A Non-Attainment or Maintenance Area; or
    - An area expected to exceed the National Ambient Air Quality Standards or Prevention of Significant Deterioration increment based on:
    - Monitored or previously modeled values for the area;
    - Proximity to designated Non-Attainment or Maintenance Areas; or
    - Consistent with the *Memorandum of Understanding among the U.S. Department of Agriculture, U.S. Department of the Interior, and U.S. Environmental Protection Agency Regarding Air Quality Analyses and Mitigation for Federal Oil and Gas Decisions through the National Environmental Policy Act* emissions for the proposed action based on the Emissions Inventory.

D.3.4. Mitigation

The BLM recognizes that many of the activities that it authorizes, permits, or allows generate air pollutant emissions that have the potential to adversely impact air quality. The primary mechanism to reduce air quality impacts is to reduce emissions (mitigation). As part of the comprehensive air management plan for the planning area will include the following with regards to reducing emissions:

- The BLM will require project proponents to include measures for reducing air pollutant emissions in project proposals and Plans of Development as described in Section D.4;
- The BLM will require additional air emission control measures and strategies within its regulatory authority and in consultation with the Wyoming DEQ and other federal agencies when appropriate if a project proponent’s proposed or committed measures are insufficient to achieve air quality goals;

- The BLM will ensure that air pollution control measures and strategies (both operator committed and required mitigation) are enforceable by including specific conditions in a ROD.

D.4. Project-Specific Requirements

The BLM has identified activities and pollutants of concern for the planning area and this section contains specific requirements for project proponents. Mineral development activities, specifically oil and gas development and mining, have been identified as having the potential to contribute to increases in ambient concentrations of ozone, hazardous air pollutants and $PM_{2.5}$. At a minimum, proponents of mineral development projects must provide the emissions inventory identified in Section D.4.1 and comply with all applicable laws and regulations identified in Section D.4.4.1. In addition, project proponents for other activities may be required to comply with Section D.4, as determined by the BLM within the limits of its jurisdiction and in consultation with the WDEQ and taking into account existing air quality conditions and availability of representative air monitoring data, magnitude of estimated project emissions, meteorologic and geographic conditions in the vicinity of the project, and the current state of air pollution control technology.

D.4.1. Emissions Inventory

The proponent of a mineral development project will provide the BLM an emissions inventory that quantifies emissions of regulated air pollutants from all sources related to the proposed project, including fugitive emissions and greenhouse gas emissions, estimated for each year for the life of the project. The BLM will use this estimated emissions inventory to identify pollutants of concern and to determine the appropriate level of air analysis to be conducted for the proposed project.

The BLM may require an emissions inventory for other actions depending on the magnitude of potential air emissions from the project or activity, proximity to a federally mandated Class I area, sensitive Class II area, or population center, location within a non-attainment or maintenance area, meteorologic or geographic conditions, existing air quality conditions, magnitude of existing development in the area, or issues identified during project scoping.

D.4.2. Monitoring

D.4.2.1 The proponent of a mineral development project that has the potential to emit more than 100 tons per year of any criteria air pollutant must provide a minimum of one year of baseline ambient air monitoring data for any pollutant(s) of concern as determined by the BLM, if no representative air monitoring data are being collected within 50 kilometer of the project area, or existing ambient air monitoring data are insufficient, incomplete, or does not meet minimum air monitoring standards set by the Wyoming DEQ. If the BLM determines that baseline monitoring is required, this pre-analysis data must meet Wyoming DEQ air monitoring standards, be obtained from a site within 50 kilometers of the project boundary, and cover the year immediately prior to the submittal. This requirement may be waived where the life of the project is less than one year.

D.4.2.2 The BLM may require monitoring for the life of the mineral development project depending on the magnitude of potential air emissions from the project or activity, proximity to a federally mandated Class I area, sensitive Class II area, or population center, location within a non-attainment or maintenance area, meteorologic or geographic conditions, existing air quality conditions, magnitude of existing development in the area, or issues identified during project scoping.

D.4.2.3 The BLM may require project proponents of other air emission generating projects to conduct baseline or life of project air monitoring depending on the magnitude of potential air emissions from the project or activity, proximity to a federally mandated Class I area, sensitive Class II area, or population center, location within a non-attainment or maintenance area, meteorologic or geographic conditions, existing air quality conditions, magnitude of existing development in the area, or issues identified during project scoping.

D.4.3. Modeling

D.4.3.1 The proponent of a mineral development project that has the potential to emit more than 100 tons per year of any criteria pollutant will be required to conduct air quality modeling for any pollutant(s) of concern, as determined by the BLM, unless the project proponent can demonstrate that the project will result in no net increase in emissions of the pollutant(s) of concern. The BLM, in cooperation with an interagency review team, will determine the parameters for the modeling analysis through the development of a project-specific modeling protocol.

D.4.3.2 The BLM may require air quality modeling for other air emission generating projects or for projects, actions, or management activities with estimated emissions below the threshold listed in D.4.3.1 if other criteria that warrant an air dispersion or photochemical modeling analysis are identified for purposes of analyzing project direct, indirect, or cumulative impacts to air quality. Such criteria may include the magnitude of potential air emissions from the project or activity, proximity to a federally mandated Class I area, sensitive Class II area, or population center, location within a non-attainment or maintenance area, meteorologic or geographic conditions, existing air quality conditions, magnitude of existing development in the area, or issues identified during project scoping.

D.4.4. Mitigation

D.4.4.1 The proponent of a mineral development project will be required to minimize air pollutant emissions by complying with all applicable state and federal regulations (including application of Best Available Control Technology) and may be required to apply additional mitigation including but not limited to best management practices and other control technologies or strategies identified by the BLM or Wyoming DEQ in accordance with delegated regulatory authority.

D.4.4.2 The proponent of a mineral development project that has the potential to emit any regulated air pollutant will be required to provide a detailed description of operator committed measures to reduce project related air pollutant emissions including greenhouse gases and fugitive dust. Project proponents for oil and gas development projects should refer to Appendix U, *Technical Support Document for Air Resources* of the Proposed RMP and Final EIS (and in Table D.2, “Emission Reduction Strategies for Oil and Gas Development” (p. 213), below) as a reference for potential control technologies and strategies. The list is not intended to preclude the use of other effective air pollution control technologies that may be proposed.

D.4.4.3 The BLM may require the proponent of other air emission generating projects to comply with D.4.4.1 and D.4.4.2 based on the magnitude of potential air emissions from the project or activity, proximity to a federally mandated Class I area, sensitive Class II area, or population center, location within a non-attainment or maintenance area, meteorologic or geographic conditions, existing air quality conditions, magnitude of existing development in the area, or issues identified during project scoping.

D.4.4.4 The BLM may require project proponents to submit a contingency plan that provides for reduced operations in the event of an air quality episode. Specific operations and pollutants to be addressed in the contingency plan will be determined by the BLM on a case-by-case basis taking into account existing air quality and pollutants emitted by the project.

Table D.2. Emission Reduction Strategies for Oil and Gas Development

Mitigation Measure	Environmental Benefits	Environmental Liabilities	Feasibility
Control Strategies for Drilling and Compression			
Directional Drilling.	Reduces construction related emissions (dust and vehicle and construction equipment emissions). Decreases surface disturbance and vegetation impacts (dust and carbon dioxide and nitrogen flux). Reduces habitat fragmentation.	Could result in higher air impacts in one area with longer sustained drilling times.	Depends on geological strata.
Improved engine technology (Tier 2 or better) for diesel drill rig engines.	Reduced NO_x, PM, carbon monoxide, and VOC emissions.	–	Dependent on availability of technology from engine manufacturers.
Selective Catalytic Reduction for drill rig engines and/or compressors.	NO_x emissions reduction and decreased formation of visibility impairing compounds. NO_x control efficiency of 95 percent achieved on drill rig engines. NO_x emission rate of 0.1 grams per horsepower hour achieved for compressors.	Potential ammonia emissions and formation of visibility impairing ammonium sulfate. Regeneration/disposal of catalyst can produce hazardous waste.	Not applicable to 2-stroke engines.
Non-selective catalytic reduction for drill rig engines and/or compressors.	NO_x emissions reduction and decreased formation of visibility impairing compounds. NO_x control efficiency of 80-90 percent achieved for drill rig engines. NO_x emission rate of 0.7 grams per horsepower hour achieved for compressor engines greater than 100 horsepower.	Regeneration/disposal of catalysts can produce hazardous waste.	Not applicable to lean burn or 2-stroke engines.
Natural Gas fired drill rig engines.	NO_x emissions reduction and decreased formation of visibility impairing compounds.	–	Requires onsite processing of field gas.

Mitigation Measure	Environmental Benefits	Environmental Liabilities	Feasibility
Electrification of drill rig engines and/or compressors.	Decreased emissions at the source. Transfers emissions to more efficiently controlled source (Electric Generating Unit).	Displaces emissions to Electric Generating Unit.	Depends on availability of power and transmission lines.
Improved engine technology (Tier 2 or better) for all mobile and non-road diesel engines.	Reduced NO_x, PM, carbon monoxide, and VOC emissions.	–	Dependent on availability of technology from engine manufacturers.
Green (also known as closed loop or flareless) completions.	Reduction in VOC and methane emissions. Reduces or eliminates flaring and venting and associated emissions. Reduces or eliminates open pits and associated evaporative emissions. Increased recovery of gas to pipeline rather than atmosphere.	Temporary increase in truck traffic and associated emissions.	Need adequate pressure and flow. Need onsite infrastructure (tanks/dehydrator). Depends on availability of sales line. Green completion permits required by Wyoming Best Available Control Technology in some areas.
Green workovers.	Same as above.	Same as above.	Same as above.
Minimize or eliminate venting and/or use closed loop process where possible during "blow downs".	Same as above.	–	Best Management Practices required by Wyoming Best Available Control Technology.
Reclaim/remediate existing open pits, no new open pits.	Reduces VOC and greenhouse gas emissions. Reduces potential for soil and water contamination. Reduces odors.	May increase truck traffic and associated emissions.	Requires tank and/or pipeline infrastructure.
Electrification of wellhead compression/pumping.	Reduces local emissions of fossil fuel combustion and transfers to more easily controlled source.	Displaces emissions to Electric Generating Unit.	Depends on availability of power and transmission lines.
Wind (or other renewable) generated power for compressors.	Low or no emissions.	May require construction of infrastructure. Visual impacts. Potential wildlife impacts.	Depends on availability of power and transmission lines.
Control Strategies Utilizing Centralized Systems			
Centralization (or consolidation) of gas processing facilities (separation, dehydration, sweetening, etc.).	Reduces vehicle miles traveled (truck traffic) and associated emissions. Reduced VOC and greenhouse gas emissions from individual dehy/separator units.	Temporary increase in construction associated emissions. Higher potential for pipe leaks/groundwater impacts.	Requires pipeline infrastructure.
Liquids Gathering systems (for condensate and produced water).	Reduces vehicle miles traveled and associated emissions. Reduced VOC and greenhouse gas emissions from tanks, truck loading/unloading, and multiple production facilities.	Temporary increase in construction associated emissions. Higher potential for pipe leaks/groundwater impacts.	Requires pipeline infrastructure.

Mitigation Measure	Environmental Benefits	Environmental Liabilities	Feasibility
Water and/or fracturing liquids delivery system.	Reduced long term truck traffic and associated emissions.	Temporary increase in construction associated emissions. Higher potential for pipe leaks/groundwater impacts.	Requires pipeline infrastructure. Not feasible for some terrain.
Control Strategies for Tanks, Separators, and Dehydrators			
Eliminate use of open top tanks.	Reduced VOC and greenhouse gas emissions.	_	Required by Wyoming Best Available Control Technology for produced water tanks in some areas.
Capture and control of flashing emissions from all storage tanks and separation vessels with vapor recovery and/or thermal combustion units.	Reduces VOC and greenhouse gas emissions.	Pressure build up on older tanks can lead to uncontrolled rupture.	98 percent VOC control if ≥ 10 tons per year required statewide by Wyoming Best Available Control Technology.
Capture and control of produced water tank emissions.	Reduces VOC and greenhouse gas emissions.	_	98 percent VOC control and no open top tanks required by Wyoming DEQ in some areas.
Capture and control of dehydration equipment emissions with condensers, vapor recovery, and/or thermal combustion.	Reduces VOC, hazardous air pollutants, and greenhouse gas emissions.	_	Still vent condensers required and 98 percent VOC control if ≥ 8 tons per year required statewide and in Concentrated Development Areas by Wyoming Best Available Control Technology. All dehy emissions controlled at 98 percent in Joint Precision Airdrop System (no 8 tons per year threshold).
Control Strategies for Miscellaneous Fugitive VOC Emissions			
Install and maintain low VOC emitting seals, valves, hatches on production equipment.	Reduces VOC and greenhouse gas emissions.	_	_
Initiate an equipment leak detection and repair program (including use of Forward Looking Infrared cameras, grab samples, organic vapor detection devices, visual inspection, etc.).	Reduction in VOC and greenhouse gas emissions.	_	_
Install or convert gas operated pneumatic devices to electric, solar, or instrument (or compressed) air driven devices/controllers.	Reduces VOC and greenhouse gas emissions.	Electric or compressed air driven operations can displace or increase combustion emissions.	_
Use "low" or "no bleed" gas operated pneumatic devices/controllers.	Reduces VOC and greenhouse gas emissions.	_	Closed loop required statewide by Wyoming Best Available Control Technology.

Mitigation Measure	Environmental Benefits	Environmental Liabilities	Feasibility
Use closed loop system or thermal combustion for gas operated pneumatic pump emissions.	Reduces VOC and greenhouse gas emissions.	–	Required statewide by Wyoming Best Available Control Technology (98 percent VOC control or closed loop).
Install or convert gas operated pneumatic pumps to electric, solar, or instrument (or compressed) air driven pumps.	Reduces VOC and greenhouse gas emissions.	Electric or compressed air driven operations can displace or increase combustion emissions.	Required statewide by Wyoming Best Available Control Technology if no thermal combustion used.
Install vapor recovery on truck loading/unloading operations at tanks.	Reduces emissions of VOC and greenhouse gas emissions.	Pressure build up on older tanks can lead to uncontrolled rupture.	Wyoming Best Available Control Technology analysis required if VOC ≥ 8 tons per year or hazardous air pollutant ≥ 5 tons per year.
Control Strategies for Fugitive Dust and Vehicle Emissions			
Unpaved surface treatments including watering, chemical suppressants, and gravel.	20 - 80 percent control of fugitive dust (particulates) from vehicle traffic.	Potential impacts to water and vegetation from runoff of suppressants.	–
Use remote telemetry and automation of wellhead equipment.	Reduces vehicle traffic and associated emissions.	–	–
Speed limit control and enforcement on unpaved roads.	Reduction of fugitive dust emissions.	–	–
Reduce commuter vehicle trips through car pools, commuter vans or buses, innovative work schedules, or work camps.	Reduced combustion emissions, reduced fugitive dust emissions, reduced ozone formation, reduced impacts to visibility.	–	–
Miscellaneous Control Strategies			
Use of ultra-low sulfur diesel in engines, compressors, construction equipment, etc.	Reduces emissions of particulates and sulfates.	–	Fuel not readily available in some areas.
Reduce unnecessary vehicle idling.	Reduced combustion emissions, reduced ozone formation, reduced impacts to visibility, reduced fuel consumption.	–	–
Reduced pace of (phased) development.	Peak emissions of all pollutants reduced.	Emissions generated at a lower rate but for a longer period. Life of Plan, duration of impacts is longer.	May not be economically viable or feasible if multiple mineral interests.

DEQ Department of Environmental Quality
PM Particulate Matter
NO_X Nitrogen Oxides
VOC Volatile Organic Compound

Appendix E. Required Design Features and Best Management Practices

Adverse environmental impacts associated with development can be avoided, reduced, or mitigated through the project's design and implementation. In the case of greater sage-grouse protections, in order to provide regulatory certainty that the measures will be incorporated, they must be required of every project. The National Technical Team report identified management actions and practices that would reduce adverse impacts to greater sage-grouse if mandated for development throughout either Core Area (priority habitat), occupied greater sage-grouse habitat, or general habitat areas. Some of these practices are incorporated as being universally appropriate. The ones that could be analyzed on a planning area-wide basis are identified in this appendix as Required Design Features.

Other environmental protection measures could not be analyzed in a planning area-wide Environmental Impact Statement (EIS) because their appropriateness depends upon site-specific issues such as proximity to the boundary of Core Area or non-crucial habitat or engineering or physical limitations such as an oil and gas producing zone being too close to the surface to be recoverable through directional drilling. These best management practices (BMPs) are required to be considered in a site-specific project's design to reduce, prevent, or avoid adverse environmental or social impacts. These practices are analyzed to help ensure that development is conducted in an environmentally responsible manner. Some BMPs are as simple as choosing a paint color that helps oil and natural gas equipment blend with the natural surroundings, making development less visible. Other BMPs may reduce the amount of vegetation lost to development, improve the speed of re-growth of desirable vegetation, or may reduce the amount of wildlife disturbance in important habitats. Public land users are encouraged to review these practices, incorporate them where appropriate, or develop better methods for achieving the same goal. However, the Bureau of Land Management (BLM) may also require their incorporation into the design features of the project as a condition of approval. Only when the design feature is part of the BLM authorization as a condition of approval, should the National Environmental Policy Act (NEPA) analysis of the project analyze the beneficial impacts of the design feature. If the practice is only voluntary or suggested, the BLM lacks the authority to require its implementation, so the project should be analyzed as if the practice will not occur. The BLM authorization will make clear whether the BMP is mandatory (attached as a condition of approval) or merely encouraged.

NEPA analysis that concludes that BMPs should not be attached as mandatory conditions of approval needs to clearly explain why with relation to site-specific factors. The purpose of this section is not to select certain practices or designs and require that only those be used. It is not possible to evaluate all the known practices and make determinations as to which are best, particularly without a specific project in a specific location. BMPs should be matched and adapted to meet the site-specific requirements of the decision, project, and local environment. No one management practice is best suited to every site or situation, or will remain the most optimal practice over time. BMPs must be adaptive and monitored regularly to evaluate effectiveness.

Protections for the greater sage-grouse are an important focal point in the preparation of the Resource Management Plan (RMP), in part because of the importance of the Lander habitat for the survival and recovery of the species. Accordingly, a special section of BMPs identifies management that should be considered in both greater sage-grouse Core Area and general greater sage-grouse habitat. It is expected that these BMPs will change over time as monitoring and further study develop improved greater sage-grouse protections.

Required Design Features

The following design approaches are required for all projects unless the proponent establishes that due to site limitations or engineering considerations, the design approaches are infeasible. Economic considerations such as increased costs do not render a design infeasible.

Greater Sage-Grouse Protection Required Design Features for All Projects:

The following measures, and others as they are identified, will be required for all BLM-authorized development. As appropriate, they may be required as part of the design of the project or as a mandatory condition of approval. Other greater sage-grouse protections are identified below as BMPs, which will be evaluated on a site-specific basis for inclusion as a mandatory condition of approval.

General:

- In applying protections for greater sage-grouse, all projects must evaluate (1) whether the conservation measure is reasonable (see 43 Code of Federal Regulations [CFR] 3101.1-2 for the definition of “reasonable” for fluid mineral leases) and consistent with valid existing rights, and (2) whether the action is in conformance with the RMP. Each conservation measure will be evaluated on a site-specific basis for likely effectiveness on a cost-benefit basis.
- In Core Area, where development would result in the long-term loss of greater sage-grouse habitat, identify effective mitigation that will be applied for a sufficient term as to constitute replacement habitat. Example: Purchase private land and mineral rights in the priority area and deed to the United States, or obtain a conservation easement in perpetuity. Consider compensatory mitigation and monitoring of significant direct, indirect, and cumulative impacts on, and loss of habitat for, greater sage-grouse.
- When additional mitigation is necessary, conduct it in Core Area, in the same greater sage-grouse population area. If Core Area does not provide appropriate mitigation, conduct offsite mitigation in general greater sage-grouse habitat with the ability to increase greater sage-grouse populations.
- Designate a qualified biologist who will be responsible for overseeing compliance with all design features related to the protection of ecological resources throughout all project phases, particularly in areas requiring avoidance or containing concentrated greater sage-grouse populations. This person shall be approved by the BLM.

Facilities and Surface Disturbance:

- Give overall consideration to minimizing the adverse impact to greater sage-grouse through a project design that avoids, minimizes, reduces, rectifies, and/or adequately compensates for direct and indirect impacts to greater sage-grouse habitat or use. Apply a phased development approach with concurrent interim reclamation. Locate and design individual project facilities to minimize disruption of animal movement patterns and connectivity of habitats.
- Subject to topographic and other environmental constraints, require development for a project wholly or partially in Core Area to be placed in the area least harmful to greater sage-grouse based on vegetation, topography, or other habitat features.
- Co-locate new development (facilities, pipelines, etc.) in existing disturbances or in areas where reclamation success has not been fully achieved unless the proponent establishes

that this is technically infeasible. Cluster disturbances, operations (hydraulic fracture stimulation, liquids gathering, etc.), and facilities. Co-locate powerlines, flow lines, and small pipelines under or immediately adjacent to existing roads. Design or site permanent structures to minimize impacts to greater sage-grouse, with emphasis on locating and operating facilities that create movement (e.g., pump jacks) or attract frequent human use and vehicular traffic (e.g., fluid storage tanks) in a manner to minimize disturbance of greater sage-grouse or interference with habitat use.

- Locate new compressor stations outside priority habitats and require a design that reduces noise directed toward priority habitat unless the proponent can establish that this requirement would preclude development of the lease.
- Properly contain and promptly remove refuse to avoid attracting predators.
- Use mats for drilling activities where topography permits to reduce vegetation disturbance, and as temporary roads between closely spaced wells to reduce soil compaction and maintain soil structure to increase likelihood of vegetation reestablishment.
- Restrict the construction of tall facilities, distribution powerlines, fences, and other infrastructure to the minimum number and amount needed. Place facilities, such as tanks, which could serve as greater sage-grouse predator perches, outside of Core Area unless the proponent establishes that this is technically infeasible. Equip tanks and other aboveground facilities with structures or devices that discourage nesting of ravens and raptors.
- Site and/or minimize linear features to reduce disturbance and fragmentation of greater sage-grouse habitats.
- Install greater sage-grouse safe fences around sumps, pits, and other trenching.
- Evaluate whether the benefits to greater sage-grouse from burying powerlines would outweigh the potential loss of habitat from the disturbance associated with burying the line, considering the potential threat from invasive nonnative species, low reclamation potential, and other factors. If the benefits outweigh potential adverse impacts, require that the powerlines be buried unless the applicant establishes that burying the lines is not technically feasible.
- Use remote monitoring techniques for production facilities, where applicable, and develop a plan to reduce vehicular traffic and human presence.
- Properly contain and promptly remove refuse to avoid attracting predators.
- Cover all fluid-containing pits and open tanks with netting (maximum 1.5-inch mesh size).
- Locate all residential development for employees and contractors (“man camps”) outside of Core Area.
- When a well is plugged and abandoned, avoid the use of above ground dry hole markers.

Reclamation:

- Where native shrubs located on lands proposed to be disturbed are unique and desirable for interim and final reclamation purposes, and the seed supply for these desirable brush species is not commercially available, seeds will be collected from the area and stored using the procedures of the Seeds of Success program. Seedlings or plugs of common dominant species will be propagated, preferably locally, in preparation for use in portions of area to be reclaimed to expedite vegetation recovery.
- Maximize the area of interim reclamation on long-term access roads and well pads, including reshaping, topsoiling, and revegetating cut-and-fill slopes.
- Identify areas of sustainable plant communities and populations appropriate for the project as sources for native plant material and manage for use in reclamation and restoration work. Prioritize native seed allocation for use in priority greater sage-grouse habitat in years when preferred native seed is in short supply.

- Utilize enhanced reclamation if needed to support more rapid interim and final reclamation including irrigation, mulching, soil amendments, and erosion blankets.
- When reseeding, use appropriate seed mixes and consider the use of appropriate subspecies of sagebrush seed. Continue to evaluate seed mixtures over time, considering potential changes in climate (Miller et al. 2011) when proposing seedings using native plants. Consider seed collections from the warmer component within a species' current range for selection of native seed (Kramer and Havens 2009).
- Include reclamation or post-fire restoration objectives requiring that greater sage-grouse habitat needs are adequately addressed, and monitoring protocol to verify that the objectives are accomplished. Include greater sage-grouse habitat parameters as defined by Connelly et al. (2000), Hagen et al. (2007), or if available, state greater sage-grouse conservation plans and appropriate local information in habitat restoration objectives. Make maintaining these objectives in priority greater sage-grouse habitat areas a high restoration priority.
- Identify and work with partners to increase native seed availability and work with plant material centers to develop new plant materials, especially the forbs needed to restore greater sage-grouse habitat.
- Choose native plant seeds for vegetation treatments based on availability, adaptation (site potential), probability for success, and the vegetation management objectives for the area covered by the treatment. Prioritize native seed allocation for use in Core Area in years when preferred native seed is in short supply.
- Make reestablishment of sagebrush and desirable understory plant cover (relative to ecological site potential) a high priority for restoration efforts. Write specific vegetation objectives to reestablish sagebrush cover and desirable understory cover.
- Implement interim reclamation as soon as feasible for all disturbed soils to the side of roadways and other long-term disturbances, reducing the disturbance to the smallest area possible.
- Restore disturbed areas at final reclamation to the pre-disturbance landforms and desired plant community.
- Maximize the area of interim reclamation on long-term access roads and well pads, including reshaping, topsoiling, and revegetating cut-and-fill slopes.

Impoundment Pond Design:

- Work with the Wyoming Department of Environmental Quality to limit surface discharge of water that has the potential of increasing productivity for mosquitoes and decreasing greater sage-grouse habitat quality.
- Identify permanent ponds so as to reduce the number of newly flooded sites, which have high productivity for mosquitoes. Avoid flooding flat terrain or low-lying areas.
- Design impoundment ponds to reduce attraction to breeding mosquitoes while considering attraction to other vectors of diseases such as blue tongue disease. Design parameters should include steepness of sides, avoidance of shallows less than 2 feet (60 centimeters), and reduction of rooted vegetation (both aquatic and uplands).
- Separate inflow and outflow areas to produce open water; avoid creating wetlands.
- Avoid down slope seepage or overflow (including from natural drainage). Line constructed ponds as necessary to avoid seepage. Prevent shallow surface inflow and accumulation of sediment that promotes aquatic vegetation through piping discharge into open water and lining channels.
- Line the overflow spillway with crushed rock, and construct the spillway with steep sides to preclude the accumulation of shallow water and vegetation.

- Fence pond sites to restrict access by livestock and other wild ungulates that trample and disturb shorelines, enrich sediments with manure, and create hoof print pockets of water that are attractive to breeding mosquitoes.
- Treat waters with larvicides to reduce mosquito production where water occurs on the surface.

Roads:

- Locate roads to avoid important habitats for greater sage-grouse and other wildlife. Construct, improve, and maintain access roads to minimize potential wildlife/vehicle collisions and facilitate wildlife movement through the project area.
- Apply dust abatement on roads, well pads, and other surface disturbances. Use of dust abatement with limited adverse impacts to vegetation, cultural resources, water quality, and other resources.
- When responding to a request for a road, develop a transportation plan on a landscape scale so as to consider all parties who will be authorized to use the road.
- Limit route construction to realignments of existing designated routes if that realignment has a minimal impact on greater sage-grouse habitat, eliminates the need to construct a new road, or is necessary for motorist safety.
- Identify measures to reduce the use of motorized vehicles to reduce adverse impacts to wildlife.
- Design roads to minimize total disturbance to the smallest amount possible and to the lowest standard while meeting road objectives or purpose including safety. Establish speed limits that will reduce vehicle speed to reduce greater sage-grouse mortality.
- If road crossings of linear water features (such as ephemeral, intermittent, and perennial streams) cannot be avoided, construct crossings to minimize impacts to the riparian-wetlands habitat. Usually this will mean crossing the feature at right angles. Temporary, portable bridges should be considered.
- Limit the use of new roads associated with development including not making it part of the public road network or implementing seasonal closures. Restrict motorized vehicle use to authorized users using signage, gates, and other devices.
- Establish slow speed limits on BLM-administered roads or design roads for slower vehicle speeds to reduce greater sage-grouse mortality and other wildlife conflicts.
- During travel management implementation, close and rehabilitate duplicate roads and rights-of-way (ROWs) no longer being utilized. When restoring original landform and establishing desirable vegetation, use appropriate seed mixtures or transplants as provided above and in Appendix B (p. 187). Identify roads where the risk of vehicle or human-caused wildfires and the spread of invasive species into greater sage-grouse habitats could be minimized by planting perennial vegetation (e.g., green-strips) paralleling road ROWs (this BMP could be applied to BLM linear ROW authorizations).

Fire:

- Prior to the fire season, provide greater sage-grouse training to resource advisors.
- Develop site-specific greater sage-grouse reference information and resource materials containing maps, a list of resource advisors, contact information, local guidance, and other relevant information. Provide localized maps to dispatch offices and extended attack incident commanders for use in prioritizing wildfire suppression resources and designing suppression tactics. Involve state wildlife agency expertise in fire operations through: instructing resource advisors during preseason trainings; qualification as resource advisors; coordination with resource advisors during fire incidents; and contributing to incident

planning with information such as habitat features or other key data useful in fire decision making. The BLM has collected wildfire data considered to be reliable since 1960. Although perimeter mapping was not instituted until recently, acreage estimations were made and linked to a point or polygon on a map. Using Geographic Information System analysis cross linking the acres with the points or the actual mapped locations where available, the BLM determined that a *total* of 25,000 acres in Core Area were burned by wildfire, less than 0.15 percent of Core Area.

- During periods of multiple fires, ensure line officers are involved in setting priorities.
- Locate wildfire suppression facilities (i.e., base camps, spike camps, drop points, staging areas, and heli-bases) in areas where physical disturbance to greater sage-grouse habitat can be minimized. These include disturbed areas, grasslands, near roads/trails, or in other areas where there is existing disturbance or minimal sagebrush cover.
- Where applicable, utilize retardant and mechanized equipment to minimize burned acreage in Core Area during an extended attack. Utilize retardant, mechanized equipment, and other available resources to minimize burned acreage during initial attack.
- As safety allows, conduct mop-up where the black adjoins unburned islands, dog legs, or other habitat features to minimize sagebrush loss.
- Minimize burnout operations in Core Area or near a lek outside of Core Area (with input from the resource adviser) by constructing direct fireline whenever safe and practical to do so.
- Minimize unnecessary cross-country vehicle travel during fire operations in greater sage-grouse habitat.
- Adequately document fire operation activities in greater sage-grouse habitat for potential follow-up coordination activities.
- Power-wash all firefighting vehicles, to the extent possible, including engines, water tenders, personnel vehicles, and all-terrain vehicles prior to deploying in or near greater sage-grouse habitat areas to minimize spread of invasive plants.

Vegetation Treatment and Fuels Management:

- Design vegetation treatments in areas of high wildfire frequency to facilitate firefighter and public safety; reduce the risk of extreme fire behavior; and reduce the risk and rate of fire spread to greater sage-grouse habitats while facilitating the restoration of key habitats.
- Design fuels treatment objectives to protect existing sagebrush ecosystems, modify fire behavior, restore native plants, and create landscape patterns that most benefit greater sage-grouse habitat.
- Provide training to fuels treatment personnel on greater sage-grouse biology, habitat requirements, and identification of areas utilized locally.
- Use fire prescriptions that minimize undesirable effects on vegetation or soils (e.g., minimize mortality of desirable perennial plant species and reduce risk of hydrophobicity).
- Incorporate roads and natural fuel breaks into fuel-break design.
- Power wash all vehicles and equipment involved in fuels management activities prior to entering the area to minimize the introduction of undesirable and/or invasive plant species.
- Outside of priority habitat, give priority for implementing sagebrush restoration projects that are adjacent to priority habitat.
- As funding and logistics permit, restore habitat to a species composition characterized by perennial grasses, forbs, and shrubs.
- Do not reduce sagebrush canopy cover to less than 15 percent within a treatment polygon unless a vegetation management objective requires additional reduction in sagebrush cover to meet strategic protection of priority greater sage-grouse habitat and conserve habitat quality for the species.

- Ensure proposed sagebrush treatments are planned with interdisciplinary input from BLM and state wildlife agency biologists, and that treatment acreage is conservative in the context of surrounding greater sage-grouse seasonal habitats and landscape.
- In suitable greater sage-grouse habitat, the priority for vegetation treatments are those that conserve, enhance, or restore greater sage-grouse habitat, reduce fuels at strategic locations to minimize the size of wildfires and limit loss of greater sage-grouse habitat. Remove conifers where they have encroached upon greater sage-grouse habitat. Reduce the density of conifers that have encroached into, but do not yet dominate, sagebrush plant communities.
- Minimize undesirable effects on vegetation or soils (e.g., minimize mortality of desirable plant species and reduce risk of hydrophobicity). Incorporate vegetation treatment standard operating procedures, such as those outlined in the 17 Western States Vegetation Programmatic EIS, into treatments (BLM 2007b).
- Ensure that treatments are configured in a manner (e.g., strips) that promotes use by greater sage-grouse.
- Reestablish appropriate sagebrush species/subspecies and important understory plants relative to site potential. Identify priority plant species and collect seed of understory plants and sagebrush subspecies important to greater sage-grouse. Establish seed harvest areas that are managed for seed production and are a priority for protection from outside disturbances.
- Design vegetation treatments in greater sage-grouse habitats to strategically reduce wildfire threats in the greatest area. This could involve spatially arranging new vegetation treatments with past treatments, vegetation with fire-resistant serial stages, natural barriers, and roads to constrain fire spread and growth. This could require vegetation treatments to be implemented in a more linear versus block design.
- Remove standing and encroaching trees within at least 100 meters of occupied greater sage-grouse leks and other habitats (e.g., nesting, wintering, and brood-rearing) to reduce the availability of perch sites for avian predators.
- Protect wildland areas from wildfire originating on private lands, infrastructure corridors, and recreation areas.
- Strategically place and maintain pretreated strips/areas (e.g., mowing, prescribed fire, herbicide application, and strictly managed grazed strips) to aid in controlling wildfire should wildfire occur near key habitats or important restoration areas (such as where investments in restoration have already been made).

Mineral Development:

- Give overall consideration to impacts to greater sage-grouse in applying technically feasible conditions of approval. Selection and application of these measures shall be based on current science and research on the effects to important breeding, nesting, brood-rearing, and wintering areas. The Plan of Development or Plan of Operations, as applicable, shall address, at a minimum, the anticipated noise, density and amount of disturbance, mechanical movement (e.g., pump jacks), permanent and temporary facilities, traffic, phases of development over time, offsite mitigation, and expected periods of use associated with the proposed project. The NEPA analysis and authorization should identify seasonal habitats or typical project features related to potential greater sage-grouse impacts, such as drill mats that are not made a part of the conditions of approval, based on site-specific or project-specific considerations and the explanation of why these protections were not included.
- Where feasible, co-locate new development (facilities, pipelines, etc.) in existing disturbances. Cluster disturbances, operations (hydraulic fracture stimulation, liquids gathering, etc.), and facilities. Use drilling techniques to reduce surface disturbance in relation to the number of wells, where feasible. Place liquid-gathering facilities and

compressor stations outside Core Area, unless the proponent can establish that this requirement would preclude development of the lease. Identify measures to reduce traffic in Core Area.

- To ensure comprehensive planning relative to greater sage-grouse conflicts, complete Master Development Plans or Plans of Development during planning and review of projects involving multiple proposed disturbances in Core Area.
- In Core Area, require closed-loop systems for drilling operations, with no reserve pits unless technically infeasible.
- Require noise shields or other noise abatement devices when drilling during the lek, nesting, brood-rearing, and wintering seasons. Locate new compressor stations outside of Core Area if feasible, and require a design directed toward priority habitat that reduces noise.

Miscellaneous:

- Identify areas where acquisitions (including subsurface mineral rights) or conservation easements, would benefit greater sage-grouse habitat. Apply acquisition and disposal criteria from Appendix K (p. 309).

Best Management Practices

The following sources contain information regarding the development and implementation of BMPs. These references are not to be considered as exclusive sources of information; rather, they should be used as a starting point when evaluating specific BMPs during project design and implementation.

Bureau of Land Management Best Management Practices Resources

BLM BMPs: This website provides an introduction to BLM BMPs with links to BLM contacts, specific resources, and other BMP links, and other resources related to BLM BMPs. http://www.blm.gov/bmp/
See also http://www.oilandgasbmps.org/

Fire Operations and Fuels Management BMPs: Sage-Grouse Conservation in Fire Operations and Fuels Management (Instruction Memorandum 2013–128) or subsequent guidance provides BMPs for fire operations and fuels management for greater sage-grouse conservation. Recommendations from this guidance should be evaluated and applied as appropriate to BLM fire operations and fuels management.

General Information for Oil and Gas BMPs: This resource provides general information regarding BLM BMPs for oil and gas development. A sample of BMPs are provided with a brief description of types of BMPs and terminology. http://www.blm.gov/wo/st/en/prog/energy/oil_and_gas/best_management_practices/general_information.html

BMP Frequently Asked Questions: The link below provides responses to frequently asked questions regarding BLM BMPs.
http://www.blm.gov/wo/st/en/prog/energy/oil_and_gas/best_management_practices/frequently_asked_questions.html

BMP Technical Information: The slide shows at the link below provide a detailed look at a menu of possible oil and natural gas development BMPs. These slide shows are only a starting point and are not intended to serve as a comprehensive list of BMPs. http://www.blm.gov/nhp/efoia/wo/fy05/im2005-069.htm

Oil and Gas Exploration – The Gold Book: The publication *Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development* (commonly referred to as The Gold Book) was developed to assist operators by providing information on the requirements for obtaining permit approval and conducting environmentally responsible oil and gas operations on federal lands and on private surface over federal minerals (split-estate). Split-estate surface owners will also find the Gold Book to be a useful reference guide. In 2007, the Gold Book was updated to incorporate changes resulting from the new Onshore Oil and Gas Order No. 1 regulations. http://www.blm.gov/wo/st/en/prog/energy/oil_and_gas/best_management_practices/gold_book.html

Visual Resources: There are numerous design techniques that can be used to reduce the visual impacts from surface-disturbing projects. The techniques described here should be used in conjunction with BLM's visual resource contrast rating process wherein both the existing landscape and the proposed development or activity are analyzed for their basic elements of form, line, color, and texture. http://www.blm.gov/wo/st/en/prog/Recreation/recreation_national/RMS/3.html

Renewable Energy Development BMPs: The following resources provide information on BMPs related to renewable energy development.

- *Wind Energy Development Programmatic EIS:* The scope of the Wind Energy Programmatic EIS analysis includes an assessment of the beneficial and adverse environmental, social, and economic impacts; discussion of relevant mitigation measures to address these impacts; and identification of appropriate, programmatic policies and BMPs to be included in the proposed Wind Energy Development Program. http://windeis.anl.gov/documents/fpeis/index.cfm

- *BLM Instruction Memorandum 2009-043, Rights-of-Way, Wind Energy:* This Instruction Memorandum further clarifies the BLM Wind Energy Development policies and BMPs provided in the Wind Energy Development Programmatic EIS. http://www.blm.gov/wo/st/en/info/regulations/Instruction_Memos_and_Bulletins/national_instruction/2009/IM_2009-043.html

- *Record of Decision for the Geothermal Resource Leasing Programmatic EIS:* This Record of Decision provides a list of sample BMPs that have been collected from various BLM and United States Forest Service documents addressing geothermal and fluid mineral leasing and development, including RMPs, forest plans, and environmental reports for geothermal leasing and development. The document provides guidance on incorporating BMPs, as appropriate, into the geothermal permit application or as Conditions of Approval. http://www.blm.gov/pgdata/etc/medialib/blm/wo/MINERALS__REALTY__AND_RESOURCE_PROTECTION_/energy/geothermal_eis/final_programmatic.Par.90935.File.dat/ROD_Geothermal_12-17-08.pdf

- *Solar Energy Development Programmatic EIS:* This Programmatic EIS was issued July 24, 2012. Its policies and mitigation measures were adopted as part of the proposed solar energy deployment program. The Solar Energy Development Programmatic EIS identifies for those that work in the solar industry as well as other stakeholders, the best practices for deploying solar energy and ensuring minimal impact to natural and cultural resources on BLM-administered lands or other federal, state, tribal, or private lands. http://www.solareis.anl.gov/

U.S. Environmental Protection Agency Best Management Practices Resources

Healthy Watersheds: This resource provides conservation approaches and tools designed to ensure healthy watersheds remain intact. The website provides example approaches that are generally site-specific, and watershed managers are encouraged to use the examples as guidance in developing local conservation strategies. The website also supplies outreach strategies to encourage stakeholder engagement in conservation and protection of healthy watersheds. http://www.epa.gov/owow/nps/

Storm Water BMPs: This online menu provides BMPs designed to meet the minimum requirements for six control measures specified by the Environmental Protection Agency's Phase II Stormwater Program. The control measures include public education, public involvement, illicit discharge detection and elimination, construction, post-construction, and pollution prevention/good housekeeping. The menu also provides case studies assessing the performance of various storm water BMPs. http://cfpub.epa.gov/npdes/stormwater/menuofbmps/menu.cfm

Pasture, Rangeland, and Grazing Operations BMPs: The link below provides BMPs compiled by the Environmental Protection Agency to prevent or reduce pollution associated with livestock grazing. Topics include practices to reduce methane production, manage nonpoint source pollution, control grazing, reduce animal feeding operation pollution, and manage manure. http://www.epa.gov/oecaagct/anprgbmp.html

U.S. Department of Agriculture – Natural Resources Conservation Service (NRCS) BMP Resources

National Conservation Practice Standards: This website provides links for national conservation practices developed by the NRCS on topics such as herbaceous wind barriers, feed management, forest stand improvement, and irrigation management. The conservation practice standard contains information on why and where the practice is applied, and sets forth the minimum quality criteria that must be met during the application of that practice in order for it to achieve its intended purpose. http://www.nrcs.usda.gov/Technical/Standards/nhcp.html

National Range and Pasture Handbook: Developed by NRCS grazing land specialists, this handbook provides a source of expertise to guide cooperators in solving resource problems and in sustaining or improving their grazing lands resources and operations. http://www.glti.nrcs.usda.gov/technical/publications/nrph.html

Wyoming Game and Fish Department BMP Resources

Aquatic Invasive Species: This resource provides information about how to recognize aquatic invasive species and how to avoid introducing them or spreading them through Wyoming's waters. The website contains links to external resources including a link to waterbodies in the United States currently known to be impacted by zebra and quagga mussels. The website also contains information about how to decontaminate equipment and watercraft suspected of harboring aquatic invasive species. http://gf.state.wy.us/fish/AIS/index.asp

Recommendations for Development of Oil and Gas Resources within Important Wildlife Habitats: This document provides recommendations for mitigation and management options that development companies and resource agencies can implement to minimize impacts to wildlife from oil and gas development. http://gf.state.wy.us/web2011/Departments/Wildlife/pdfs/HABITAT_OILGASRECOMMENDATIONS0000333.pdf

Wildlife Protection Recommendations for Wind Energy Development in Wyoming: This document provides recommendations for BMPs, avoidance, monitoring, research, and mitigation opportunities for developers and resource agencies to minimize impacts to wildlife from wind-energy development. http://gf.state.wy.us/web2011/Departments/Wildlife/pdfs/WINDENERGY_WILDLIFEPROTECTION0000703.pdf

Forestry Best Management Practices

Wyoming Forestry Best Management Practices: This document provides recommendations for protecting water quality and forest soils. Some of the BMPs outlined in this document are listed below. http://slf-web.state.wy.us/oldsite/forestry/bmp2.aspx

Road Construction and Maintenance: The need for higher-standard roads can be alleviated through temporary road blockage, locked gate management, and seasonal weather restrictions.

Number of Roads, Existing Roads: Minimize the number of roads constructed in a watershed through comprehensive road planning, recognizing intermingled ownership and foreseeable future uses to avoid the creation of sediment, change of water temperature, or addition of unwanted nutrients. Use existing roads where practical, unless use of such roads would cause or aggravate an erosion problem. When using existing roads, reconstruct only to the extent necessary to provide adequate drainage and safety; avoid disturbing stable road surfaces.

Road Design and Implementation: Fit the road to the topography by locating roads on natural benches and following natural contours. Locate roads on stable geology, including well-drained soils and rock formations that tend to dip into the slope. Avoid slumps and slide-prone areas characterized by steep slopes, toe slopes, natural drainage channels, highly weathered bedrock, clay beds, concave slopes, and hummocky topography, and rock layers that dip parallel to the slope. Avoid wet areas, including moisture-laden or unstable toe slopes, seeps, wetlands, wet meadows and natural drainage channels. Minimize earth-moving activities when soils appear excessively wet.

Drainage: Design roads to minimize disruption of natural drainage patterns. Provide adequate drainage, as part of the construction process, from the surface of all permanent and temporary roads. Design, install, and route road surface drainage features at adequate spacing to control erosion; steeper gradients require more frequent drainage features. Install road-drainage features above stream crossings to route discharge into filtration zones before it enters a stream or surface water. Use outsloped, insloped, or crowned roads and space road-drainage features so peak drainage flow on the road surface or in ditches will not exceed capacity. Provide energy dissipaters (rock piles, slash, log chunks, etc.) where necessary to reduce erosion at the outlet of drainage features. Cross drains, culverts, water bars, dips, and other drainage structures should not discharge onto erodible soils or fill slopes without outfall protection. Properly constructed drain drips can be an economical method of road surface drainage. Construct drain dips deep enough into the subgrade so that traffic will not obliterate them. Route road drainage through adequate filtration zones or other sediment settling structures to ensure sediment does not reach surface water.

Runoff/Erosion Control: Stabilize erodible, exposed soils by seeding, compacting, rip-rapping, benching, mulching, or other suitable means prior to seasonal runoff. Prevent downslope movement of sediment by using sediment catch basins, drop inlets, changes in road grade, headwalls, or recessed cut slopes. Keep slope stabilization, erosion, and sediment control work current with road construction. Complete or stabilize road selections within the same operating season. Maintain erosion-control features through periodic inspection and maintenance, including cleaning dips and cross drains, repairing ditches, marking culvert inlets to aid in location, and clearing debris from culverts.

Debris and Excess Material Handling: Haul all excess material removed by maintenance operations to safe disposal sites and stabilize these sites to prevent erosion. Avoid sidecasting and place debris, overburden, and other waste materials associated with construction and maintenance activities in a location to avoid entry into streams. Include these waste areas in soil stabilization planning for the road. Minimize sediment production from borrow pits and gravel sources through proper location, development, and reclamation.

Cut and Fill Slopes: This includes: construct cut and fill slopes at stable angles to prevent sloughing and other subsequent erosion. Design roads to balance cuts and fills or use full bench construction (no fill slope) where stable fill construction is not possible. Avoid incorporating potentially unstable woody debris in the fill portion of the road prism. Where possible, leave existing rooted trees or shrubs at the toe of the fill slope to stabilize the fill. At the toe of potentially erodible fill slopes, particularly near stream channels, pile slash in a row parallel to the road to trap sediment. When done concurrently with road construction, this is one method that can effectively control sediment movement, and it can provide an economical way of disposing of roadway slash. Limit the height, width, and length of "slash filter wind-rows" so wildlife movement is not impeded. Sediment fabric fences or other methods may be used if effective.

Out/In Slopes: Outsloped roads provide a means of dispersing water in a low-energy flow from the road surface. Outsloped roads are appropriate when fill slopes are stable, drainage will not flow directly into stream channels, and transportation safety can be met. For insloped roads, plan ditch gradients steep enough, generally greater than 2 percent but less than 8 percent, to prevent sediment deposition and ditch erosion. The steeper gradients may be suitable for more stable soils; use the lower gradients for less stable soils. Do not disturb roadside vegetation more than necessary to maintain slope stability and serve traffic needs.

Weather Maintenance: Grade road surfaces only as often as necessary to maintain a stable running surface and adequate surface drainage. Avoid cutting the toe of cut slopes when grading roads, pulling ditches, or plowing snow. When plowing snow, provide breaks in the snow berm to allow road drainage. Consider gates, barricades, or signs to limit use of roads during spring breakup to other wet periods. Avoid using roads during wet periods if such use would likely damage the road drainage features. When access requires crossing moist areas with a poor road base, cross only when the ground is frozen or dry to alleviate a rutted, poorly drained road. Upon completion of seasonal operations, ensure that drainage features are fully functional. The road surface should be crowned, outsloped, insloped, or waterbarred. Remove berms from the outside edge.

Ditch Culverts: For ditch relief culverts, construct catch basins with stable side slopes. Protect the inflow end of cross drain culverts from plugging and armor if in erodible soil. Where possible, install culverts at the gradient of the original ground slope; otherwise armor outlets with rock or anchor downspouts to carry water safely across the fill slope. Skew ditch relief culverts 20 to 30 degrees toward the inflow from the ditch to help maintain proper function.

Stream Culverts: When using culverts to cross small streams, install those culverts to conform to the natural stream bed and slope on all intermittent streams that support fish or that provide seasonal fish passage. Ensure fish movement is not impeded by using culverts with a suitable diameter for permanent stream crossings and during peak flows. Maintain a 1-foot minimum cover for culverts 15 to 36 inches in diameter, and a cover of one-third diameter for larger culverts to prevent crushing by traffic. Place culverts slightly below normal stream grade to avoid culvert outfall barriers. Do not alter stream channels upstream from culverts, unless necessary to protect fill or to prevent culvert blockage. Install culverts to prevent erosion of fill. Compact the fill material to prevent seepage and failure. Armor the inlet and/or outlet with rock or other suitable material where feasible. Consider dewatering stream-crossing sites during culvert installation. This can be done with a temporary diversion channel or a sandbag dam with a pump diversion.

Stream Crossings: Minimize the number of road stream crossings and choose stable stream-crossing sites. Minimize stream-channel disturbances and related sediment problems during necessary construction of road and installation of stream-crossing structures. Whenever possible, retain existing vegetation and organic material around stream crossings. Locate temporary construction bypass roads where the stream course will have minimal disturbance. Design stream crossings for adequate passage of fish (if present) and time construction activities to have minimum impact on water quality and fisheries. Consider oversized pipe when debris loading may pose problems. Ensure sizing provides adequate length to allow for depth of road fill. Do not place erodible material into stream channels and remove stockpiled material from high-water zones. Abutments and wingwalls should prevent material from spilling into the stream. Avoid unimproved stream crossings. When a culvert or bridge is not feasible, locate drive-through (ford) on a stable, rocky portion of the stream channel, such as a bedrock stream.

Equipment Use: Avoid operation of wheeled or tracked equipment within isolated wetlands, except when the ground is frozen. Tractor skid where compaction, displacement, and erosion will be minimized. Avoid tractor or wheeled skidding on unstable wet or easily compacted soils.

Hazardous Substances/Weed and Pest Control: Know and comply with regulations governing the storage, handling, application (including licensing of applicators), and disposal of hazardous substances. Follow all label instructions. Develop a contingency plan for hazardous substance spills, including cleanup procedures and notification of the Wyoming Department of Environmental Quality (DEQ). A Spill Prevention and Countermeasures Plan is required by federal law for storage of more than 1,320 gallons, and state law requires the reporting of spills over 25 gallons.

Integrated Approach: Use an integrated approach to weed and pest control, including manual, biological, mechanical, preventative, and chemical means. To enhance effectiveness and prevent transport into streams, apply chemicals during appropriate weather conditions (generally calm and dry) and during the optimum time for control of the target pest or weed.

Prescribed Burning and Wildfire Suppression: Protect soil and water from prescribed burning effects by maintaining soil productivity, minimizing erosion, and preventing ash, sediments, nutrients and debris from entering surface water. After an intense wildfire or prescribed burn, emergency rehabilitation may be necessary to minimize the loss of soil, prevent the deterioration of water quality, and to mitigate threats to life and property. Stabilize all areas that have significantly increased erosion potential or drainage patterns altered by suppression activities by installing water bars and other drainage diversions in fire roads, fire lines, and other cleared areas, seeding, planting, and fertilizing to provide vegetative cover, spreading slash or mulch to protect bare soil, repairing road damage, and clearing stream channels of debris deposited by suppression activities and scarification as necessary to encourage percolation on excessively burned soils.

BMPs for Water Resources

BMPs would be appropriate for consideration when proposed activities are within groundwater zones 1-3, surface water zones 1-3, and sensitive aquifer systems identified through the use of the Wyoming Groundwater Vulnerability Assessment Handbook (Wyoming DEQ 2004), or similar document updated over time. BMPs to mitigate impacts to water resources include, but are not limited to, the following:

- Use closed-loop drilling systems where technologically feasible.
- Reuse produced water for well completion activities and enhanced oil recovery operations using water.
- Do not use evaporation ponds or reserve pits in proximity to shallow aquifers. Reduce reliance on evaporation ponds in other locations and other forms of surface disposal.
- Line surface impoundment ponds (evaporation ponds or drilling pits) with synthetic liners and subsequently decommission them by removing all contaminants and liners, and reclaiming the area.
- Identify private water supply wells and implement appropriate protection measures for the affected aquifer(s), as necessary to prevent the introduction of contaminants into the well (e.g., site oil and gas wells at a distance necessary to prevent the introduction of contaminants into the drinking water supply well, collect baseline water quality data from the water supply well, etc.).
- Require a monitoring plan that includes collection of baseline and periodic water quality data from potentially affected drinking water supply wells, identification of parameters to monitor, reporting results to the BLM and well owners, and reporting to Wyoming DEQ any contaminant in groundwater exceeding Wyoming DEQ (or Environmental Protection Agency) Class I drinking water standards.
- Review the geology of shallow aquifers to determine well construction requirements, which may include cementing to surface and drilling with a fresh water mud system.
- Require surface casing and cement to a specific formation or depth to protect aquifers at depth that need protection.
- Set surface casing below the lower-most drinking water and set into a confining (e.g., shale) layer.
- Set an intermediate string of casing and cement in the event of deep aquifers.
- Require submittal of a well logging plan and document submittal plan to ensure proper well construction to protect groundwater.
- Review the geology of shallow aquifers in proximity to groundwater development activities to determine potential impacts to flow patterns supporting water elements such as fen, wetlands, springs, seeps, and ponds.
- Because of the age of the well or depth or other factor, require re-completions to comply with state and federal standards for new well construction; analyze cement bond logs associated with any existing well location within ¼-mile of completing a new well or re-completing an existing one; and identify how re-completed wells will be tested and monitored.

BMPs for Greater Sage-Grouse Protections

Knowledge of BMPs for greater sage-grouse protections is an evolving field. As research is done on impacts of various kinds of activities, or the absence thereof, on greater sage-grouse, additional protections will be identified. While some of these will be generic enough to be applied planning area-wide, others will require site-specific analysis to determine if they are appropriate for inclusion as a mandatory condition of approval. This BMP section of this appendix will be supplemented as technology and understanding of greater sage-grouse advance.

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Appendix F. Stipulations and Conditions of Approval in Designated Development Areas and in Non-Designated Development Areas

Conditions of Approval (COAs) and/or stipulations will be applied to surface-disturbing activities related to oil and gas and right-of-way (ROW) actions in the Lander Field Office planning area. Applicable wildlife timing limitation stipulation, controlled surface use (CSU), and site-specific requirements will be included as COAs/stipulations according to federal regulations and policies (see Table F.1, "Activities for Oil and Gas and ROW Operations, and Short-Term Operation and Maintenance Activities Subject to COAs/Stipulations" (p. 233)).

New oil and gas leases will have applicable wildlife timing limitation stipulation and CSU stipulations applied at the leasing stage. For protection of greater sage-grouse, raptors, and migratory birds protected under the Migratory Bird Treaty Act, the Bureau of Land Management will apply timing limitation stipulation and/or CSU COAs/stipulations for their protection on surface use authorizations within Designated Development Areas. The need to apply COAs/stipulations for big game crucial winter range and site-specific requirements in Designated Development Areas will be analyzed through the National Environmental Policy Act process. Exceptions to the COAs/stipulations can be requested using the process identified in Appendix C (p. 193). Emergency and safety situations related to operations and maintenance are exempt from the COAs/stipulations. Notification/reporting to the Authorized Officer for these situations are subject to applicable rules and regulations.

Table F.1. Activities for Oil and Gas and ROW Operations, and Short-Term Operation and Maintenance Activities Subject to COAs/Stipulations

Activities	Entire Lander Field Office
All Preliminary Activities and/or Casual Use as Defined by Regulations	COA/stipulation does not apply
All Site Construction	COA/stipulation applies
All Drilling	COA/stipulation applies
All Completion	COA/stipulation applies
All Surface Facilities Installation Activities	COA/stipulation applies
All Pipeline/Flow Line Installation	COA/stipulation applies
Plug and Abandon Wells	COA/stipulation applies
Reclamation	COA/stipulation applies
New Soil-Disturbing Activities	COA/stipulation applies
Short-Term Well and Oil and Gas-related ROW Maintenance and Miscellaneous Activities ● Well pumper ● Inspections ● Minor facility repair (1-2 Days) ● Spill remediation ● Haul condensate and produced water ● Snow removal ● Weed control ● Written order/incident of non-compliance remediation ● Production sales and measurements	COA/stipulation does not apply
COA Condition of Approval ROW Right-of-way	

Wildlife timing limitation stipulation COAs/stipulations will not apply for long-term maintenance and operation activities within Designated Development Areas unless otherwise identified. Timing limitation stipulation and site-specific COAs/stipulations will be applied to oil and gas and ROW maintenance and operation activities conducted outside of Designated Development Areas where the activity could disturb wildlife during critical times of the year. Identified non-emergency related maintenance and operation activities outside Designated Development Areas that could be disruptive to wildlife during the breeding, nesting/birthing, and winter periods would be subject to a timing limitation stipulation COA/stipulation. Table F.2, "Maintenance and Operation Activities for Oil and Gas and ROW Operations Outside Designated Development Areas Subject to COAs/Stipulations" (p. 234), identifies the activities that would be subject to the timing limitation stipulation COA/stipulation.

Table F.2. Maintenance and Operation Activities for Oil and Gas and ROW Operations Outside Designated Development Areas Subject to COAs/Stipulations

Activities	Designated Development Areas	Outside of Designated Development Areas
Other Well and Oil and Gas-related ROW Maintenance and Miscellaneous Activities* ● Replace and install production facilities ● Routine road maintenance ● Excavate temporary flare and completion pit ● Replace pipelines and flowline within lease/unit ● Workover/recompletion/ downhole maintenance ● General routine maintenance activities within lease/unit	COA/stipulation does not apply	COA/stipulation applies
● Removing or replacing utility poles or facilities ● General routine maintenance activities ● Restringing powerlines ● Routine communication site maintenance ● Repair/replace pipelines	COA/stipulation applied on case-by-case basis	COA/stipulation applies
*Operation and maintenance activities described are not related to emergency and safety situations, but are considered routine actions. COA Condition of Approval ROW Right-of-way		

Appendix G. Livestock Grazing Allotments and Range Improvements

This appendix provides an overview of livestock grazing allotments including acreage and season of use; allotment categorization; and allotments assessed for standards and guidelines. In addition, it provides details of range improvement projects and the Bureau of Land Management's (BLM) approach to comprehensive grazing management strategies. The data are presented throughout the narrative and in the following tables:

- Table G.1, "Allotment Categorization " (p. 239)
- Table G.2, "Lander Field Office Grazing Allotments Assessed for Meeting Standards" (p. 245)
- Table G.3, "Allotment Management Plans and Rangeland Management Agreements Developed" (p. 250)
- Table G.4, "Animal Unit Months Authorized, 1989-2008" (p. 251)

In 1985, the BLM established three categories for allotments to identify areas where management was needed, as well as to prioritize workloads and the use of range improvement dollars generated from the portion of grazing fees returned to the field office. The categories and criteria used to place an allotment into each category are described below. Subsequently, in 2008, the BLM revised the definitions for these categories in Instruction Memorandum 2009–018, *Process for Setting Priorities for Issuing Grazing Permits and Leases*. The guidance makes clear that categorization is not done as part of a Resource Management Plan (RMP) revision and does not require an RMP amendment or maintenance action. However, part of the National Environmental Policy Act (NEPA) process associated with the RMP and Environmental Impact Statement (EIS) is to engage the public in scoping and providing input on management decisions. Accordingly, this appendix identifies information on grazing allotments to better inform the public on livestock grazing management on the allotment level. The RMP analyzed in one alternative closing 12,839 acres to livestock grazing that were open to grazing in two other alternatives. This analysis would need to be supplemented on a site-specific basis in accordance with the procedures required by Instruction Memorandum 2009-018.

The categorization process now emphasizes ensuring that land health considerations are the primary basis for prioritizing the processing and issuing of grazing authorizations for use of allotments on public lands. A flow chart for the process of issuing grazing permits and leases establishes the process to be followed as outlined in Instruction Memorandum 2009–018.

Category I – Allotments where current livestock grazing management or level of use on public land is, or is expected to be, a significant causal factor in the non-achievement of land health standards, or where a change in mandatory terms and conditions in the grazing authorization is or may be necessary. When identifying Category I allotments, review condition of critical habitat, conflicts with greater sage-grouse, and whether projects have been proposed specifically for implementing the Healthy Lands Initiative. Some of these allotments might be administered by other BLM Field Offices.

Category M – Allotments where land health standards are met or where livestock grazing on public land is not a significant causal factor for not meeting the standards and current livestock management is in conformance with guidelines developed by the State Directors in consultation with Resource Advisory Councils. Allotments where an evaluation of land health standards has not been completed, but existing monitoring data indicates that resource conditions are satisfactory.

Category C – Allotments where public lands produce less than 10 percent of the forage in the allotment or are less than 10 percent of the land area. An allotment should generally not be designated Category C if the public land in the allotment contains: (1) critical habitat for a threatened or endangered species, and/or (2) riparian-wetlands adversely affected by livestock grazing.

Comprehensive grazing management strategies are first and foremost intended to maintain, and/or make substantial progress toward, fulfillment of the Wyoming Standards for Healthy Rangelands. Comprehensive grazing management strategies should include and consider defined resource management objectives for areas preferred by livestock, permitted use, class of livestock, livestock season of use, limits of flexibility, monitoring requirements, forage allocations necessary to support wildlife and wild horses, and the need for range improvements considerate of potential conflicts with other resource values. Existing permits that have already been fully processed under NEPA evaluating a range of grazing alternatives and existing functional Allotment Management Plans already include comprehensive grazing management strategies. The development of such a strategy will vary based on the identified management category for the grazing allotment as follows:

- Category “I” allotments will be prioritized for the development of comprehensive grazing strategies. The Lander Field Office will evaluate grazing strategies on I category allotments based on the following criteria.

1. Carrying Capacity of the Allotment: Stocking rates will be established based on the current average forage production and availability considerate of forage requirements of wildlife and wild horse populations. Stocking rates must allow for adequate residual cover to dissipate energy, capture sediment, and support proper infiltration and soil moisture storage/release in support of ecological processes.
2. Season of use: Grazing during the critical growing season and during the hot season will be required to be managed in a manner that allows for sufficient rest (e.g., rest/deferred rotation systems) to promote healthy, vigorous native plant communities and minimize soil loss and compaction.
3. Class of livestock: If the current class of livestock is considered to be an important factor in non-fulfillment of the Wyoming Standards for Healthy Rangelands, a change in class of livestock will be considered to make substantial progress toward fulfillment of the Wyoming Standards for Healthy Rangelands. In the event a change in class of livestock is not feasible, stocking rates and/or the season of use shall be appropriately modified to make substantial progress toward fulfillment of the Wyoming Standards for Healthy Rangelands in consideration of the overall grazing strategy.
4. Range Improvement Projects: Range improvement projects will be considered when existing range improvements have been satisfactorily maintained, the project has been found to be necessary for the establishment of modified grazing practices, and/or when the project has been designed to make substantial progress toward fulfillment of the Wyoming Standards for Healthy Rangelands in conformance with the Approved RMP. All proposed range improvements will be evaluated for conflicts with other resource values and must be designed to mitigate impacts to any conflicting values. Resource values that will be evaluated for potential conflicts with range improvement projects

include, but are not limited to, special status species, wild horses, critical wildlife habitats, cultural resources, National Historic Trail and Continental Divide National Scenic Trail corridors, recreation, designated Areas of Critical Environmental Concern, wilderness study areas, and lands with wilderness characteristics. Projects that are designed to promote substantial improvement toward meeting the Wyoming Standards for Healthy Rangelands and sufficiently mitigate impacts to other resource values, if any, will receive a higher priority consideration. Similarly, projects that are designed to promote substantial improvement toward meeting the Wyoming Standards for Healthy Rangelands, and are initiated to enhance other resource values (e.g., wildlife, recreation etc.) will receive a higher priority consideration. Figure G.1, "Range Infrastructure Development" (p. 252), identifies the process by which the Lander Field Office will prioritize range improvement project proposals.

- Category "M" and "C" allotments will be evaluated for comprehensive grazing management strategies on a case-by-case basis. Where alternative grazing strategies and/or range improvement projects are proposed, the proposals will be evaluated for conflicts with other resources and the potential impacts to the Wyoming Standards for Healthy Rangelands. Projects that are designed to promote enhanced rangeland health and are initiated to enhance other resource values (e.g., wildlife, recreation) will receive a higher priority consideration.
- Monitoring programs will be incorporated into comprehensive grazing management strategies to evaluate the success of new management strategies in meeting resource objectives. The cooperative monitoring program is intended to provide a framework for the facts and data to be collected, analyzed, and shared with the public, and used by the BLM to make land management decisions. A cooperative monitoring effort with the active participation of the grazing permittees and interested public will be encouraged.

The following methods were used to calculate the disturbance areas associated with construction of range improvement projects.

Spring Developments

A. $(a + b + c) \div d$ = area affected by development = **1.0 acre**

where a = 40,000 square feet; 200 feet by 200 feet area fenced around the spring to prevent damage from livestock,
b = 1,200 square feet; 60 feet of pipeline with a 20 foot width of disturbance for installation with a backhoe,
c = 28 square feet area displaced by a trough 2 feet in width by 14 feet in length, and
d = 43,560 square feet, the number of square feet in one acre.

B. $\pi r^2 \div d$ = acres disturbed by livestock concentration = **1.6 acres**

where $\pi = 3.14$ and,
r^2 = 50 yards (150 feet), the radius of the livestock concentration area and
d = 43,560 square feet, the number of square feet in one acre.

C. Total affected area for the spring development would be 1.0 acre + 1.6 acres = **2.6 acres.**

Water Well Developments

A. $(a + b + 2c + d) \div e$ = area affected by development = **0.2 acre**

where a = 5,000 square feet; affected area by well and storage tank,
b = 28 square feet; a water trough 2 feet in width by 14 feet in length,

c = 1,000 square feet; 50 feet of pipeline with a 20 foot width of disturbance for installation with a backhoe,
d = 2,500 square feet; 50 feet by 50 feet affected area of an overflow pond, and
e = 43,560 square feet, number of square feet in one acre.

B. $\pi r^2 \div d$ = acres disturbed by livestock concentration = **1.6 acres**

where $\pi = 3.14$, and
r^2 = 50 yards (150 feet), the radius of the livestock concentration area and
d = 43,560 square feet, the number of square feet in 1 acre.

C. Total acres affected by a water well development would be 0.2 acres + 1.6 acres = **1.8 acres**.

Fencing

BLM three-wire cattle fence and riparian-wetlands pasture fence.

a x b ÷ c = total affected area = **1.5 acres/mile**

where a = 12 feet, this includes a two-tracked trail, produced by motor vehicles, on each side of the fence,
b = 5,280 feet, the number of feet in 1 mile, and
c = 43,560 square feet, the number of square feet per acre.

12 feet/mile x 5,280 feet/mile = 63,360 square feet/mile ÷ 43,560 square feet/acre = 1.45 acres/mile

Pasture Boundary Signs

Assumed to be 5 percent of the total affected area, the BLM three-wire cattle fence requires repeated travel along the previously constructed fence, therefore causing additional disturbances. Construction of a pasture boundary fence would require a single trip, therefore causing a minimal amount of disturbance.

Cattleguards

All proposed cattleguards would be constructed on an existing road; therefore, no additional disturbance would take place.

Artesian Well (Wetland Fencing)

A. (600 feet x 6 feet = 3,600 square feet) + (600 feet x 12 feet = 7,200 square feet) = 10,800 square feet ÷ 43,560 square feet/acre = **0.2 acres** on fenceline.

B. 200 feet x 200 feet = 40,000 square feet ÷ 43,560 square feet/acre = **0.9 acres** inside permanent exclosure.

Pipelines

1 foot x 5,280 feet/mile = 5,280 square feet/mile ÷ 43,560 square feet/acre = **0.1 acre/mile**

Table G.1. Allotment Categorization

Allotment	Allotment Name	Category
01323	Fuller Allotment	I
180	Lost Creek	M
00655	Copper Mountain	I
01301	Cantril Jack Allotment	M
01302	North of CB&Q Railroad	I
01303	South of CB&Q Railroad	I
01304	Crawford Creek	I
01305	Lybyer North	I
01306	Canning Allotment	M
01307	Mallet-Smith Pasture	C
01308	167A Scott Robson	M
01309	Logan Pasture	M
01310	Cottonwood Pass	I
01311	Keenan	C
01312	North of Tracks	I
01313	South of Tracks	I
01314	Moneta Hills Pasture	M
01315	Ditch Pasture	C
01316	Madden Ranch Pasture	C
01317	Brandau Ranch Allotment	I
01318	Below the Hill Pasture	M
01319	Twidale	C
01320	St. Clair West	I
01321	St. Clair Ranch	C
01322	St. Clair South Past.	I
01324	Hoodoo Creek Allotment	I
01325	East of Ranch	I
01326	Lichtenstein	I
01327	Myrtle Reed Allotment	I
01328	Battle Axe South	M
01329	Lysite Mountain	I
01330	Battle Axe Lysite	M
01331	Battle Axe Berger	I
01332	Bow & Arrow	M
01333	Gates Draw Allotment	I
01334	Cottonwood Pass	I
01335	OCLA South of Railroad	I
01336	OCLA North of Railroad	I
01337	De Pass Ranch	C
01338	Fuller Ranch Pasture	I
01339	Picard Private Allotment	I
01340	168A North of Seeps	I
01341	168A Stock Driveway	M
01342	Knapp Individual	C
01343	Tuff Creek Pasture	I
01344	Westfall	I
01345	Mountain Pasture	I
01346	Bonneville Reservoir	I
01347	Jones Creek Basin	M
01348	J. Herbst Summer	I
01349	J. Herbst Tuff Creek	I

Allotment	Allotment Name	Category
01350	Wm. Herbst Summer	C
01351	Scott Draw	M
01352	Joe Johns Pasture	C
01353	Campbell	M
01354	Stinking Well	I
01355	Lookout Hill	M
01356	Howard Pasture	I
01357	Summer Allotment	M
01358	Top of Mountain Pasture	C
01359	Ramage Ranch	I
01360	Ruth Fuller Private	C
01361	Copper Mountain (Lander)	C
01362	Lybyer South	M
01363	Hoodoo HQ Pastures	C
01364	Red Ranch Pasture	C
01365	Quien Sabe Ranch Pasture	M
01366	Cabin Pasture	C
01367	Henrich Pasture	I
01368	Bridger Creek	C
01369	Picard Ranch HQ	C
01373	Copper Mountain	C
01401	Rim Pasture	I
01402	Delfelder Allotment	I
01403	Conant Creek Common	I
01404	Wm. Herbst Winter	I
01405	Posey North Allotment	I
01406	Poison Creek	M
01407	Muskrat Allotment Management Plan	I
01408	Township Pasture	I
01409	Muskrat Open	I
01410	Posey Pasture	I
01411	Shoshoni Road	I
01412	Poston Winter	M
01413	Pipeline Pasture	M
01414	Anderson Winter	M
01415	Myers Pasture	M
01416	Lame Jack Draw	I
01417	Haybarn Hill	I
01512	South Dobie Flat	I
01518	Little Bug Pasture	M
01519	Miller Springs Pasture	I
01520	School Pasture	M
01521	Riddle Pasture	M
01523	Bug Lake	M
01601	Dodds Allotment	M
01604	#17 Horse Heaven Pasture	I
01605	#18 Horse Creek Pasture	M
01606	#19 Vinegar Hill Pasture	M
01607	#16 Phillips Pasture	M
01608	#20 Calf Pasture	M
01609	#21 Horse Pasture	M
01610	#22 Bull Pasture	C
01612	Hamilton Rock Pasture	M

Allotment	Allotment Name	Category
01614	Circle Bar Allotment	I
01615	North of Drift Fence	I
01616	Keester	M
01619	Winter Pastures	M
01620	Cabin Creek Pasture	C
01622	Hat Ranch	M
01623	Murphree Pastures	I
01625	Jamerman Pastures	M
01626	Mud Lake	C
01628	Sage Hen	M
01629	JJ Winter Pastures	C
01630	Tram Road Pasture	I
01631	Claytor Homestead	C
01632	North Hat Pasture	M
01633	Stamped Bog	M
01635	Big Rock Pasture	I
01636	Granite Mountain Open	I
01638	Winter Allotment	M
01640	Garson Ranch	C
01642	Devils Gate	M
01644	Turkey Track	I
01660	Home, North of Highway	M
01701	Flagg Allotment Management Plan	I
01702	Flagg Individual	C
01703	Big Pasture	I
01704	Breeding Pasture	M
01705	Myers Fenced Pasture	I
01706	Trent & Home Place	M
01707	Ice Slough	I
01709	Long Creek Pasture	M
01710	Graham Ranch Pasture	M
01711	Hay Meadow Pasture	C
01712	Long Creek Sweetwater	C
01713	Whitlock Fenced	I
01714	Scarlett Pasture	C
01715	Horse Pasture	M
01716	Dishpan Butte	I
01717	Fenced Individual	M
01801	East Beaver Common	I
01802	Sand Draw Allotment Management Plan	I
01803	Government Draw	I
01804	Government Draw – Lower Beaver	I
01805	Kirby-Reservation Boundary	I
01806	Griffin Beaver Creek	M
01807	Baldwin Pasture	I
01808	Hudson Draw Private Allotment	M
01809	Bringolf Ranch	C

Allotment	Allotment Name	Category
01810	Yellowstone Ranch	C
01813	Blue Ridge	C
01814	Highway Pasture	C
01901	Atlantic City Common	I
01902	Cottonwood Basin	I
01903	Silver Creek Common	I
01904	Devils Canyon Allotment Management Plan	I
01905	Ellis Upper Beaver	I
01906	Twin Creek Individual	I
01907	Commissary Hill	M
01908	Little Popo Agie Allotment Management Plan	M
01909	Onion Flat	I
01910	Sawmill Basin	I
01911	Red Canyon Allotment Management Plan	I
01912	Twin Creek Private	C
01913	McGraw Flat Individual	I
01914	McGraw Flat Common	I
01915	Beaver Allotment Management Plan	I
01916	Hall Creek Individual	I
01917	Cottonwood Divide	I
01918	McGraw Flat-U. Beaver	I
01919	Gravel Springs Allotment	I
01920	Salisbury Allotment Management Plan	I
01921	Level Meadows	I
01922	P. Heart Individual	I
01923	Atlantic City Upper Fenced	C
01924	Atlantic City Lower Fenced	C
01925	Hall Creek Winter Past	M
01926	McKinney Individual	I
01927	Upper Ellis Ranch	C
01928	Lower Ellis Ranch	C
01929	Barras Spring	C
01930	Long Willow	C
1931	Woolery Individual	M
01932	Sheep Mountain	M
01933	Lazy Y	C
01934	Red Canyon Rim	M
01935	Bowman Ranch	C
01936	Derby Allotment	M
01937	Little Knoll	C
01938	Bergstedt Ranch	C
01939	Auer Ranch	C
01940	Henton Ranch	C
01941	Flat Onion	I
01943	Red Bluff Creek	M
02009	Alkali Pasture	M
02011	Highway Allotment	I
02019	Cooper Creek	M
02021	Willow Creek Allotment	C

Allotment	Allotment Name	Category
02023	Crooks Gap	M
02025	Leckinby Pasture	M
02026	Little Camp Creek	I
02028	Mitchell Pasture	C
02029	Diamond Hook	C
02103	Lime Kiln Gulch	C
02104	Little Warm Spring Canyon	M
02106	Fire Ridge	M
02107	Wells 11	M
02108	Geyser Creek	M
02109	Cross 14	C
02110	Little Horse Creek	I
02111	E A Mountain 16	M
02112	Bear Creek No. 2112	C
02113	Crooked Creek	C
02114	Spence 23	C
02115	Hat Butte Ranch	C
02116	Elk Ridge Southeast	C
02117	Blue Holes	C
02119	White Pass 31	C
02120	Windy Ridge	C
02121	Mason Draw	I
02122	Tappan Creek 34	I
02123	Battrum Mountain	I
02125	Albright 47	C
02126	CM 49	M
02127	Wagon Gulch	C
02128	Bitterroot 60	C
02130	Cross 67	C
02132	Stoney Point 73	C
02201	North Fork Rim	M
02202	Baldwin Creek School	C
02203	Madison Creek	C
02204	Table Mountain 9	C
02205	Hopkins 13	I
02206	Wickstrom 17	C
02207	Steers 19	I
02208	Pine Bar 21	M
02210	Willow Creek 24	I
02211	Squaw Creek	I
02212	Frank Ranch 28	C
02213	Spriggs 36	C
02214	Meyer Basin	I
02215	Wunder 38	C
02216	Day 39	C
02217	Nicholas 40	I
02218	Double A 41	I
02219	Orchard Draw	I
02220	Red Butte	I
02221	Juniper Hill	C
02222	School Allotment	I
02223	Baldwin Creek 51	I
02224	Natural Lake	C

Allotment	Allotment Name	Category
02225	Crump 53	I
02226	Hunter	C
02227	Smith Creek	C
02228	Spriggs 57	I
02229	Kaper 59	C
02230	Table Mountain 61	C
02231	Booth 62	C
02232	Beason Creek 63	I
02233	Batrum Gap	C
02234	Sjostrom 66	C
02235	Horny Toad Associate	I
02236	Freeman 70	I
02237	North Fork	C
02238	Hilltop	C
02239	Cyclone Pass	I
02240	Harvey Basin	I
02520	Woods Basin	C
10160	Cedar Ridge LRA	C
10203	Cherry Creek	I
10205	Bar Eleven	I
10224	Stewart Creek	I
10533	Steamboat Lake	C
11501	Muskat-Linn	I
11502	Fraser Draw	M
11504	Canyon Creek	M
11505	South Deer Creek	M
11506	Deer Creek Allotment Management Plan	I
11507	South Cross L	M
11508	Gas Hills	I
11509	Diamond Springs	I
11510	North Willow Creek	M
11511	North Dobie Flat	I
11513	Blackjack Ranch	I
11514	Gap Pasture	M
11515	Cross L Pastures	M
11516	Basin Pasture	I
11517	Bug Meadows Pastures	M
12002	Harris Slough Past	C
12003	Whiskey Peak Incomm.	I
12004	Green Mountain Fenced	I
12005	Home, South of Highway	I
12006	46 Pasture	I
12007	Rigby Pasture	I
12012	East Allotment	M
12013	Fenced Allotment	I
12014	South Hat Pasture	M
12015	Hadsell Pasture	I
12016	State-71 Meadows	C
12018	Alma Grieve Pasture	M
12020	Cottonwood Pasture	M
12242	Squaw Creek	C
14289	Upper Poison Spider Creek	I

Allotment	Allotment Name	Category
14808	Three Crossings Allotment	M
20213	Elkhorn – LRA	I
21522	Decker Pasture	C
31519	Beef Gap Pasture	I
32001	Green Mountain CMN	I
Note: Data in table derived from Bureau of Land Management Lander Field Office internal databases accessed in 2010.		

Table G.2. Lander Field Office Grazing Allotments Assessed for Meeting Standards

Allotment Number	Allotment Name	Year Assessed	Acres Assessed	Meeting Standards	Not Meeting Standards – Management Implemented	Not Meeting Standards – Causal Factors Not Determined	Not Meeting Standards – Other Than Livestock Grazing
1304	Crawford Creek	2012	2,342			X	
1306	Canning	2012	347			X	
1307	Mallet-Smith Pasture	2003	181	X			
1310	Cotton-wood Pass	2012	2,317			X	
1318	Below the Hill	2012	2,548			X	
1323	Fuller Allotment	2012	3,050			X	
1324	Hoodoo Creed	2001	23,209		X		
1327	Myrtle Reed	2003	1,209	X			
1329	Lysite Mountain	2012	8,194			X	
1330	Battle Axe Lysite	2000	4,298	X			
1334	Cottonwood Pass	2012	3,890			X	
1335	OCLA South of Railroad	2000	6,413	X			
1336	OCLA North of Railroad	2000	4,861		X		
1337	De Pass Ranch	2000	472	X			
1338	Fuller Ranch Pasture	2000	1,477		X		
1340	16A North of Seeps	2012	794	X			
1341	Stock Driveway	2000	2,185		X		
1344	Westfall	2012	3,620			X	
1345	Mountain Pasture	2012	1,135			X	
1347	Jones Creek Basin	2012	1,292			X	
1348	J. Herbst Summer	2012	2,385			X	

Allotment Number	Allotment Name	Year Assessed	Acres Assessed	Meeting Standards	Not Meeting Standards – Management Implemented	Not Meeting Standards – Causal Factors Not Determined	Not Meeting Standards – Other Than Livestock Grazing
1350	Wm Herbst Summer	2012	699			X	
1352	Joe Johns Pasture	2012	1,109	X			
1357	Summer Allotment	2012	182	X			
1358	Top Of Mountain Pasture	2001	1,449	X			
1359	Ramage Ranch	1998	12,060				X
1360	Ruth Fuller Private	2012	89			X	
1361	Cooper Mountain	2012	288	X			
1363	Hoodoo HQ Pasture	2001	149			X	
1366	Cabin Pasture	2012	265			X	
1367	Heinrich Pasture	2012	81	X			
1369	Picard Ranch HQ	2000	169		X		
1373	Copper Mountain	2001	128	X			
1401	Rim Pasture	2000	19,095	X			
1403	Conant Creek	2000	50,376	X			
1404	Wm. Herbst Winter	2000	2,989		X		
1405	Posey North	2000	4,431		X		
1412	Poston Winter	2000	3,239	X			
1414	Anderson Winter	2000	5,924	X			
1416	Lame Jack Draw	2000	6,060	X			
1417	Haybarn Hill	2000	10,288	X			
1506	Deer Creek Allotment Management Plan	1998	7,000				X
1508	Gas Hills	1998	42,201	X			

Allotment Number	Allotment Name	Year Assessed	Acres Assessed	Meeting Standards	Not Meeting Standards – Management Implemented	Not Meeting Standards – Causal Factors Not Determined	Not Meeting Standards – Other Than Livestock Grazing
1509	Diamond Springs	2008	40,890		X		
1511	North Dobie Flat	2008	11,435		X		
1512	South Dobie Flat	2008	6,752		X		
1513	Black Jack Ranch	2008	31,708		X		
1633	Stampede Bog	2000	301	X			
1704	Breeding Pasture	2001	17,107	X			
1705	Myers Fenced Pasture	2001	1,288	X			
1706	Trent & Home Place	2001	500	X			
1707	Ice Slough	2002	947	X			
1709	Long Creek Pasture	2001	2,406	X			
1710	Graham Ranch Pasture	2001	1,118	X			
1712	Long Creek Sweetwater	2001	388	X			
1713	Whitlock Fenced	2001	1,086	X			
1714	Scarlett Pasture	2001	173	X			
1715	Horse Pasture	2004	133	X			
1802	Sand Draw Allotment Management Plan	1999	11,092	X			
1805	Kirby Reservation Boundary	2000	5,333	X			
1806	Griffin Beaver Creek	2000	6,068	X			
1901	Atlantic City Common	2001	39,094		X		

Allotment Number	Allotment Name	Year Assessed	Acres Assessed	Meeting Standards	Not Meeting Standards – Management Implemented	Not Meeting Standards – Causal Factors Not Determined	Not Meeting Standards – Other Than Livestock Grazing
1903	Silver Creek Common	2000	33,702		X		
1904	Devils Canyon Allotment Management Plan	2004	3,717			X	
1905	Ellis Upper Beaver	2000	3,326	X			
1906	Twin Creek Individual	1998	7,602	X			
1908	Little Popo Agie Allotment Management Plan	1998	8,651	X			
1911	Red Canyon Allotment Management Plan	1999	3,699		X		
1914	McGraw Flat Common	2000	10,149	X			
1915	Beaver Allotment Management Plan	2004	10,640			X	
1916	Hall Creek Individual	1998	12,711				X
1921	Level Meadows	2000	3,271	X			
1923	Atlantic City Upper Fenced	2000	60	X			
1924	Atlantic City Lower Fenced	2000	78	X			
1925	Hall Creek Winter Pasture	1998	1,305	X			
1927	Upper Ellis Ranch	2002	598	X			
1928	Lower Ellis Ranch	2002	339	X			

Allotment Number	Allotment Name	Year Assessed	Acres Assessed	Meeting Standards	Not Meeting Standards – Management Implemented	Not Meeting Standards – Causal Factors Not Determined	Not Meeting Standards – Other Than Livestock Grazing
1934	Red Canyon Rim	1998	853	X			
1939	Auer Ranch	2004	427	X			
2001	Green Mountain Common	1999	466,474		X		
2002	Harris Slough Pasture	2001	94	X			
2103	Lime Kiln Gulch	2012	1,159	X			
2104	Little warm Sp. Cnyn	2102	315	X			
2106	Fire Ridge	2012	148	X			
2107	Wells 11	2012	305	X			
2108	Geyser Creek	2012	829	X			
2109	Cross 14	2012	643	X			
2110	Little Horse Creek	2012	720	X			
2111	E A Mountain 16	2012	1,761	X			
2113	Crooked Creek	2012	1,247	X			
2115	Hat Butte	2012	893	X			
2116	Elk Ridge Southeast	2012	316	X			
2117	Blue Holes	2012	682	X			
2119	White Pass 31	2012	650	X			
2120	Windy Ridge	2012	332	X			
2121	Mason Draw	2012	6,813	X			
2122	Tappan Creek 34	2012	1,065	X			
2123	Battrum Mountain	2012	5,936	X			
2125	Albright 47	2012	286	X			
2126	CM 49	2012	940	X			
2127	Wagon Gulch	2012	80	X			
2128	Bitterroot 60	2012	691	X			
2130	Cross 67	2012	591	X			
2132	Stoney Point 73	2012	121	X			
2210	Willow Creek	2009	982			X	
2219	Orchard Draw	1998	1,361	X			
2520	Woods Basin	2012	173	X			
		Number of Allotments	107	71	15	18	3
		Total Acreage	1,019,044	266,537	673,075	47,661	31,771

Note: Data in table derived from Bureau of Land Management Lander Field Office internal databases.

Table G.3. Allotment Management Plans and Rangeland Management Agreements Developed

Allotment Number	Allotment Name	Allotment Management Plan Implement Date	Public Acres
01330	Battle Axe Lysite	08/23/89	4,298
01361	Copper Mountain (Lander)	03/29/96	270
01401	Rim Pasture	05/01/92	19,037
01403	Conant Creek Common	07/15/92	47,078
01406	Poison Creek*	08/06/97	16,815
01407	Muskrat Allotment Management Plan	11/01/68	39,876
01408	Township Pasture*	05/16/94	19,162
01414	Anderson Winter	05/01/92	5,914
01415	Myers Pasture*	06/10/95	923
01512	South Dobie Flat	06/11/92	6752
01636	Granite Mountain Open*	03/24/93	77,896
01643	Rawlins Draw	05/21/08	6,367
01660	Home, North of Highway	06/11/92	1,353
01701	Flagg Allotment Management Plan	06/01/69	11,361
01703	Big Pasture	07/05/91	74,351
01802	Sand Draw Allotment Management Plan	05/01/66	11,905
01803	Government Draw	11/26/90	77,299
01901	Atlantic City Common	07/31/97	38,765
01903	Silver Creek Common	05/08/97	31,953
01904	Devils Canyon Allotment Management Plan	05/01/69	3,717
01905	Ellis Upper Beaver	05/01/70	2,370
01906	Twin Creek Individual	03/28/93	7,532
01907	Commissary Hill	06/14/94	994
01908	Little Popo Agie Allotment Management Plan	06/01/70	10,760
01911	Red Canyon Allotment Management Plan	06/01/69	4009
01914	Mcgraw Flat Common	05/08/97	11,295
01915	Beaver Allotment Management Plan	06/01/69	10,640
01916	Hall Creek Individual	12/20/89	14,386
01920	Salisbury Allotment Management Plan	11/01/69	5,384
01925	Hall Creek Winter Past	12/20/89	492
01926	McKinney Individual*	04/03/97	800
01934	Red Canyon Rim	06/14/94	853
01939	Auer Ranch	06/01/69	427
102019	Cooper Creek	10/01/87	1,402
02021	Willow Creek Allotment	10/01/87	71
02029	Diamond Hook	10/01/87	207
02219	Orchard Draw	06/09/69	804
11504	Canyon Creek	02/25/99	11,065
11505	South Deer Creek	09/23/88	11,225
11506	Deer Creek Allotment Management Plan	05/01/69	6,447
11507	South Cross L	06/11/92	2,347

Allotment Number	Allotment Name	Allotment Management Plan Implement Date	Public Acres
11509	Diamond Springs	06/11/92	40,890
11510	North Willow Creek*	05/21/08	3469
11511	North Dobie Flat	06/11/92	11,435
11513	Blackjack Ranch	06/11/92	31,708
11514	Gap Pasture	06/11/92	3,604
11515	Cross L Pastures	06/11/92	1,535
11516	Basin Pasture	02/16/01	16,830
12003	Whiskey Peak	10/01/87	76,083
12005	Home, South Of Highway	06/11/92	2,560
12018	Alma Grieve Pasture	10/01/87	3,249
31519	Beef Gap Pasture	06/11/92	381
Total Allotments:	52	Total Acres:	790,346

Note: Data in table derived from Bureau of Land Management Lander Field Office internal databases accessed in 2012.
*Denotes Rangeland Management Agreement.

Table G.4. Animal Unit Months Authorized, 1989-2008

Year	AUMs Billed	Percent Actual Use
1989	230,351	82
1990	217,122	78
1991	211,366	76
1992	217,322	78
1993	227,202	81
1994	218,276	78
1995	223,874	80
1996	247,568	89
1997	221,688	79
1998	228,616	82
1999	245,140	88
2000	246,760	88
2001	220,107	77
2002	152,198	54
2003	143,590	51
2004	177,260	63
2005	191,272	68
2006	160,237	57
2007	143,026	51
2008	165,907	59
2009	193,800	69
2010	187,698	67
2011	200,161	72
Average Total:	203,067	73

Note: Data in table derived from Bureau of Land Management Lander Field Office internal databases accessed in 2010.

AUM Animal Unit Month

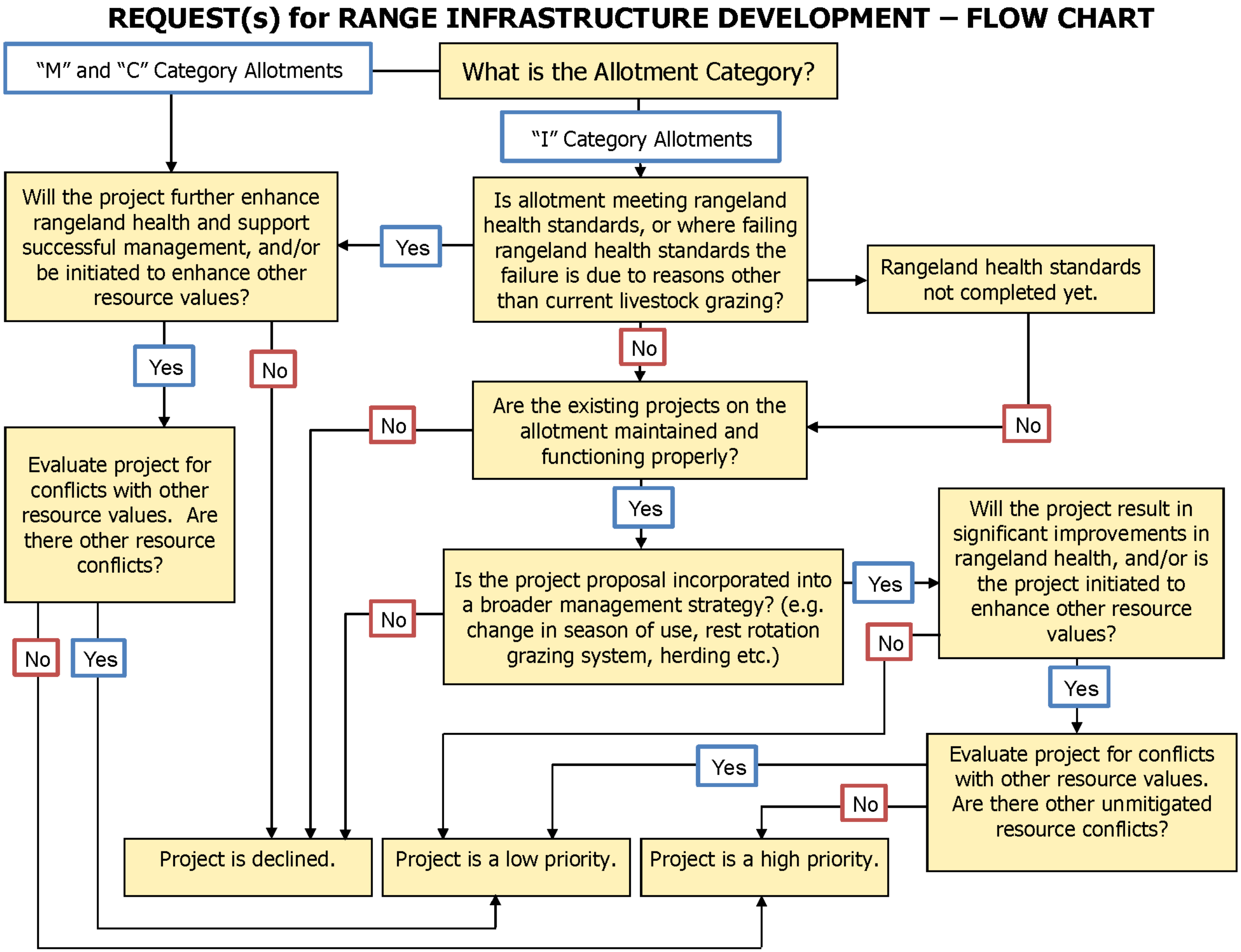
REQUEST(s) for RANGE INFRASTRUCTURE DEVELOPMENT – FLOW CHART
"M" and "C" Category Allotments
What is the Allotment Category?
"I" Category Allotments
Will the project further enhance rangeland health and support successful management, and/or be initiated to enhance other resource values?
Yes
Is allotment meeting rangeland health standards, or where failing rangeland health standards the failure is due to reasons other than current livestock grazing?
Rangeland health standards not completed yet.
Yes
No
No
No
Are the existing projects on the allotment maintained and functioning properly?
No
Evaluate project for conflicts with other resource values. Are there other resource conflicts?
Yes
Will the project result in significant improvements in rangeland health, and/or is the project initiated to enhance other resource values?
No
Is the project proposal incorporated into a broader management strategy? (e.g. change in season of use, rest rotation grazing system, herding etc.)
Yes
No
No
Yes
Yes
Yes
Evaluate project for conflicts with other resource values. Are there other unmitigated resource conflicts?
No
Project is declined.
Project is a low priority.
Project is a high priority.

Figure G.1. Range Infrastructure Development

Appendix H. Wyoming BLM Mitigation Guidelines for Surface-Disturbing and Disruptive Activities

Wyoming Mitigation Guidelines are a compilation of practices employed by the Bureau of Land Management (BLM) to mitigate impacts from surface disturbance. They apply to activities such as road or pipeline construction, range improvements, and permitted recreation activities. The guidelines are designed to protect resources such as soils and vegetation, wildlife habitat, and cultural or historic properties. The guidelines are presented as an appendix of the Resource Management Plan (RMP) and Environmental Impact Statement (EIS) for easy reference as they apply to many resources and derive from many laws. All BLM RMPs have included these guidelines as appendices. Public comment on the guidelines, per se, has not been requested. The guidelines are not land use decisions; rather they are examples of mitigation measures that could be applied, as appropriate, based on site-specific National Environmental Policy Act (NEPA) analysis for individual proposals. Comment on the use and application of specific mitigation measures can be made during the NEPA process for individual proposals. Because mitigation measures change or are modified, based on new information, the guidelines are updated periodically for all field offices in Wyoming.

These guidelines are primarily for the purpose of attaining statewide consistency in how requirements are determined for avoiding and mitigating environmental impacts and resource and land use conflicts. Consistency in this sense does not mean that identical requirements would be applied for all similar types of land use activities that may cause similar types of impacts. Nor does it mean that the requirements or guidelines for a single land use activity would be identical in all areas.

There are two ways the mitigation guidelines are used in the RMP and EIS process: (1) as part of the planning criteria in developing the RMP alternatives; and (2) in the analytical processes of both developing the alternatives and analyzing the impacts of the alternatives. In the first case, an assumption is made that any one or more of the mitigations will be appropriately included as conditions of relevant actions being proposed or considered in each alternative. In the second case, the mitigations are used (1) to develop a baseline for measuring and comparing impacts among the alternatives; (2) to identify other actions and alternatives that should be considered; and (3) to help determine whether more stringent or less stringent mitigations should be considered.

The EIS for the RMP does not decide or dictate the exact wording or inclusion of these guidelines. Rather, the guidelines are used in the RMP and EIS process as a tool to help develop the RMP alternatives and to provide a baseline for comparative impact analysis in arriving at RMP decisions. These guidelines will be used in the same manner in analyzing activity plans and other site-specific proposals. These guidelines and their wording are matters of policy. As such, specific wording is subject to change primarily through administrative review, not through the RMP and EIS process. Any further changes that may be made in the continuing refinement of these guidelines and any development of program-specific standard stipulations will be handled in another forum, including appropriate public involvement and input.

PURPOSE

The purposes of the “Wyoming BLM Mitigation Guidelines” are (1) to reserve, for the BLM, the right to modify the operations of all surface and other human presence disturbance activities as part of the statutory requirements for environmental protection; and (2) to inform a potential lessee, permittee, or operator of the requirements that must be met when using BLM-administered public lands. These guidelines have been written in a format that will allow for (1) their direct use as stipulations, and (2) the addition of specific or specialized mitigation following the submission of a detailed plan of development or other project proposal and an environmental analysis.

Those resource activities or programs currently without a standardized set of permit or operation stipulations can use the mitigation guidelines as stipulations or as conditions of approval, or as a baseline for developing specific stipulations for a given activity or program.

Because use of the mitigation guidelines was integrated into the RMP and EIS process and will be integrated into the site-specific environmental analysis process, the application of stipulations or mitigation requirements derived through the guidelines will provide more consistency with planning decisions and plan implementation than has occurred in the past. Application of the mitigation guidelines to all surface and other human presence disturbance activities concerning BLM-administered public lands and resources will provide more uniformity in mitigation than has occurred in the past.

MITIGATION GUIDELINES

Surface Disturbance Mitigation Guideline

Surface disturbance will be prohibited in any of the following areas or conditions. Exception, waiver, or modification of this limitation may be approved in writing, including documented supporting analysis, by the Authorized Officer.

- Slopes in excess of 25 percent.
- Within important scenic areas (Visual Resource Management Class I and II areas).
- Within 500 feet of surface water and/or riparian-wetland areas.
- Within either ¼ mile or the visual horizon (whichever is closer) of historic trails.
- Construction with frozen material or during periods when the soil material is saturated or when watershed damage is likely to occur.

Guidance

The intent of the surface disturbance mitigation guideline is to inform interested parties (potential lessees, permittees, or operators) that when one or more of the five conditions exist, surface-disturbing activities will be prohibited unless or until a permittee or his designated representative and the surface management agency arrive at an acceptable plan for mitigation of anticipated impacts. This negotiation will occur prior to development.

Specific criteria (e.g., 500 feet from water) have been established based upon the best information available. However, specific geographical areas and seasons must be delineated at the field level. Exception, waiver, or modification of requirements developed from this guideline must be based upon environmental analysis of the proposal (e.g., activity plan, plan of development, Plan of Operation, and Application for Permit to Drill) and, if necessary, must allow for other mitigation to be applied on a site-specific basis.

Wildlife Mitigation Guideline

A. To protect important big game winter habitat, activities or surface use will not be allowed from November 15 to April 30 within certain areas encompassed by the authorization. The same criteria apply to defined big game birthing areas from May 1 to June 30.

   Application of this limitation to operation and maintenance of a developed project must be based on environmental analysis of the operational or production aspects.

   Exception, waiver, or modification of this limitation in any year may be approved in writing, including documented supporting analysis, by the Authorized Officer.

B. To protect important raptor and/or sage and sharp-tailed grouse nesting habitat, activities or surface use will not be allowed from February 1 to July 31 within certain areas encompassed by the authorization. The same criteria apply to defined raptor and game bird winter concentration areas from November 15 to April 30.

   Application of this limitation to operation and maintenance of a developed project must be based on environmental analysis of the operational or production aspects.

   Exception, waiver, or modification of this limitation in any year may be approved in writing, including documented supporting analysis, by the Authorized Officer.

C. No activities or surface use will be allowed on that portion of the authorization area identified within (legal description) for the purpose of protecting (e.g., sage/sharp-tailed grouse breeding grounds, and/or other species/activities) habitat.

   Exception, waiver, or modification of this limitation in any year may be approved in writing, including documented supporting analysis, by the Authorized Officer.

D. Portions of the authorized use area legally described as (legal description), are known or suspected to be essential habitat for (name) which is a threatened or endangered species. Prior to conducting any onsite activities, the lessee/permittee will be required to conduct inventories or studies in accordance with BLM and U.S. Fish and Wildlife Service guidelines to verify the presence or absence of this species. In the event that (name) occurrence is identified, the lessee/permittee will be required to modify operational plans to include the protection requirements of this species and its habitat (e.g., seasonal use restrictions, occupancy limitations, facility design modifications).

Guidance

The Wildlife Mitigation Guideline is intended to provide two basic types of protection: seasonal restriction and prohibition of activities or surface use (2c). Item 2d is specific to situations involving threatened or endangered species. Legal descriptions will ultimately be required and should be measurable and legally definable. There are no minimum subdivision requirements at this time. The area delineated can and should be defined as necessary, based upon current biological data, prior to the time of processing an application and issuing the use authorization. The legal description must eventually become a part of the condition for approval of the permit, plan of development, and/or other use authorization.

The seasonal restriction section identifies three example groups of species and delineates three similar timeframe restrictions. The big game species including elk, moose, deer, pronghorn, and bighorn sheep, all require protection of crucial winter range between November 15 and April 30. Elk and bighorn sheep also require protection from disturbance from May 1 to June 30, when they typically occupy distinct calving and lambing areas. Raptors include eagles, accipiters, falcons (peregrine, prairie, and merlin), buteos (ferruginous and Swainson's hawks), osprey, and burrowing owls. The raptors and sage and sharp-tailed grouse require nesting protection between February 1 and July 31. The same birds often require protection from disturbance from November 15 through April 30 while they occupy winter concentration areas.

Item 2c, the prohibition of activity or surface use, is intended for protection of specific wildlife habitat areas or values within the use area that cannot be protected by using seasonal restrictions. These areas or values must be factors that limit life-cycle activities (e.g., sage-grouse strutting grounds, known threatened and endangered species habitat).

Exception, waiver, or modification of requirements developed from this guideline must be based upon environmental analysis of the proposal (e.g., activity plan, plan of development, Plan of Operation, Application for Permit to Drill) and, if necessary, must allow for other mitigation to be applied on a site-specific basis.

Cultural Resource Mitigation Guideline

When a proposed discretionary land use has potential for affecting the characteristics which qualify a cultural property for the National Register of Historic Places, mitigation will be considered. In accordance with Section 106 of the National Historic Preservation Act, procedures specified in 36 Code of Federal Regulations (CFR) 800 will be used in consultation with the Wyoming State Historic Preservation Officer and the Advisory Council on Historic Preservation in arriving at determinations regarding the need and type of mitigation to be required.

Guidance

The preferred strategy for treating potential adverse effects on cultural properties is "avoidance." If avoidance involves project relocation, the new project area may also require cultural resource inventory. If avoidance is imprudent or unfeasible, appropriate mitigation may include excavation (data recovery), stabilization, monitoring, protection barriers and signs, or other physical and administrative measures.

Reports documenting results of cultural resource inventory, evaluation, and the establishment of mitigation alternatives (if necessary) shall be written according to standards contained in BLM Manuals, the cultural resource permit stipulations, and in other policy issued by the BLM. These reports must provide sufficient information for Section 106 consultation. Reports shall be reviewed for adequacy by the appropriate BLM cultural resource specialist. If cultural properties on, or eligible for, the National Register of Historic Places are located within these areas of potential impact and cannot be avoided, the Authorized Officer shall begin the Section 106 consultation process in accordance with the procedures contained in 36 CFR 800.

Mitigation measures shall be implemented according to the mitigation plan approved by the BLM Authorized Officer. Such plans are usually prepared by the land use applicant according to BLM specifications. Mitigation plans will be reviewed as part of Section 106 consultation for National Register of Historic Places eligible or listed properties. The extent and nature of recommended mitigation shall be commensurate with the significance of the cultural resource involved and the anticipated extent of damage. Reasonable costs for mitigation will be borne by the land use applicant. Mitigation must be cost effective and realistic. It must consider project requirements and limitations, input from concerned parties, and be BLM approved or BLM formulated.

Mitigation of paleontological and natural history sites will be treated on a case-by-case basis. Factors such as site significance, economics, safety, and project urgency must be taken into account when making a decision to mitigate. Authority to protect (through mitigation) such values is provided for in the Federal Land Policy and Management Act, Section 102(a)(8). When avoidance is not possible, appropriate mitigation may include excavation (data recovery), stabilization, monitoring, protection barriers and signs, or other physical and administrative protection measures.

Special Resource Mitigation Guideline

To protect (resource value), activities or surface use will not be allowed (i.e., within a specific distance of the resource value or between date to date) in (legal description).

Application of this limitation to operation and maintenance of a developed project must be based on environmental analysis of the operational or production aspects.

Exception, waiver, or modification of this limitation in any year may be approved in writing, including documented supporting analysis, by the Authorized Officer.

Example Resource Categories (Select or identify category and specific resource value):

a. Recreation areas

b. Special natural history or paleontological features

c. Special management areas

d. Sections of major rivers

e. Prior existing rights-of-way

f. Occupied dwellings

g. Other (specify)

Guidance

The *Special Resource Mitigation Guideline* is intended for use only in site-specific situations where one of the first three general mitigation guidelines will not adequately address the concern. The resource value, location, and specific restrictions must be clearly identified. A detailed plan addressing specific mitigation and special restrictions will be required prior to disturbance or development and will become a condition for approval of the permit, plan of development, or other use authorization.

Exception, waiver, or modification of requirements developed from this guideline must be based upon environmental analysis of proposals (e.g., activity plans, plans of development, plans of operation, Application for Permit to Drill) and, if necessary, must allow for other mitigation to be applied on a site-specific basis.

No Surface Occupancy Guideline

No Surface Occupancy (NSO) will be allowed on the following described lands (legal description) because of (resource value).

Example Resource Categories (Select or identify category and specific resource value):

a. Recreation Areas (e.g., campgrounds, historic trails, national monuments)

b. Major reservoirs/dams

c. Special management area (e.g., known threatened or endangered species habitat, areas suitable for consideration for wild and scenic rivers designation)

d. Other (specify)

Guidance

The *No Surface Occupancy Mitigation Guideline* is intended for use only when other mitigation is determined insufficient to adequately protect the public interest and is the only alternative to "no development" or "no leasing." The legal description and resource value of concern must be identified and be tied to an NSO land use planning decision.

Waiver of, or exception(s) to, the NSO requirement will be subject to the same test used to initially justify its imposition. If, upon evaluation of a site-specific proposal, it is found that less restrictive mitigation would adequately protect the public interest or value of concern, then a waiver or exception to the NSO requirement is possible. The record must show that because conditions or uses have changed, less restrictive requirements will protect the public interest. An environmental analysis must be conducted and documented (e.g., environmental assessment, EIS, etc., as necessary) in order to provide the basis for a waiver or exception to an NSO planning decision. Modification of the NSO requirement will pertain only to refinement or correction of the location(s) to which it applied. If the waiver, exception, or modification is found to be consistent with the intent of the planning decision, it may be granted. If found inconsistent with the intent of the planning decision, a plan amendment would be required before the waiver, exception, or modification could be granted.

When considering the "no development" or "no leasing" option, a rigorous test must be met and fully documented in the record. This test must be based upon stringent standards described in the land use planning document. Since rejection of all development rights is more severe than the most restrictive mitigation requirement, the record must show that consideration was given to development subject to reasonable mitigation, including "no surface occupancy." The record must also show that other mitigation was determined to be insufficient to adequately protect the public interest. A "no development" or "no leasing" decision should not be made solely because it appears that conventional methods of development would be unfeasible, especially where an NSO restriction may be acceptable to a potential permittee. In such cases, the potential permittee should have the opportunity to decide whether or not to go ahead with the proposal (or accept the use authorization), recognizing that an NSO restriction is involved.

Appendix I. Oil and Gas Stipulations

Operations will not be approved that, in the opinion of the Authorized Officer, would unreasonably interfere with the orderly development and/or production from a valid existing mineral lease issued prior to this one for the same lands.

Standard Oil and Gas Stipulations and Lease Notices

Standard Lease Notice 1

Under 43 Code of Federal Regulations (CFR) 3101.1 2 and terms of the lease (Bureau of Land Management [BLM] Form 3100 11), the Authorized Officer may require reasonable measures to minimize adverse impacts to other resource values, land uses, and users not addressed in lease stipulations at the time operations are proposed. Such reasonable measures may include, but are not limited to, modification of siting or design of facilities, timing of operations, and specification of interim and final reclamation measures, which may require relocating proposed operations up to 200 meters, but not off the leasehold, and prohibiting surface disturbance activities for up to 60 days.

The lands within this lease may include areas not specifically addressed by lease stipulations that may contain special values, may be needed for special purposes, or may require special attention to prevent damage to surface and/or other resources. Possible special areas are identified below. Any surface use or occupancy within such special areas will be strictly controlled or, if absolutely necessary, prohibited. Appropriate modifications to imposed restrictions will be made for the maintenance and operation of producing wells.

1. Slopes in excess of 25 percent.
2. Within 500 feet of surface water and/or riparian-wetland areas.
3. Construction with frozen material or during periods when the soil material is saturated or when watershed damage is likely to occur.
4. Within 500 feet of Interstate Highways and 200 feet of other existing rights of way (e.g., United States [U.S.] and state highways, roads, railroads, pipelines, powerlines).
5. Within 0.25 mile of occupied dwellings.
6. Mineral material sites.

Guidance

The intent of this notice is to inform interested parties (potential lessees, permittees, operators) that when one or more of the above conditions exist, surface-disturbing activities will be prohibited unless or until the permittee or the designated representative and the surface management agency arrive at an acceptable plan for mitigation of anticipated impacts. This negotiation will occur prior to development and become a condition for approval when authorizing the action.

Specific threshold criteria (e.g., 500 feet from water) have been established based upon the best information available. However, geographical areas and time periods of concern must be delineated at the field level (i.e., "surface water and/or riparian-wetland areas" may include both intermittent and ephemeral water sources or may be limited to perennial surface water).

The referenced oil and gas leases on these lands are hereby made subject to the stipulation that the exploration or drilling activities will not interfere materially with the use of the area as a materials site/free use permit. At the time operations on the above lands are commenced, notification will be made to the appropriate agency. The name of the appropriate agency may be obtained from the proper BLM Field Office.

THIS NOTICE APPLIES TO ALL PARCELS

Lease Notice 2

Background

The BLM, by including National Historic Trails (NHTs) within its National Landscape Conservation System, has recognized these trails as national treasures. Our responsibility is to review the strategy for management, protection, and preservation of these trails. The NHTs in Wyoming, which include the Oregon, California, Mormon Pioneer, and Pony Express Trails, as well as the Nez Perce Trail, were designated by Congress through the National Trails System Act (Public Law 90-543; 16 United States Code [U.S.C.] 1241-1251) as amended through Public Law 106-509 dated November 13, 2000. Protection of the NHTs is normally considered under the National Historic Preservation Act (Public Law 89-665; 16 U.S.C. 470 et seq.), as amended through 1992, and the National Trails System Act. Additionally, Executive Order 13195, Trails for America in the 21st Century, signed January 18, 2001, states in Section 1: "Federal agencies will ... protect, connect, promote, and assist trails of all types throughout the U.S. This will be accomplished by … (b) Protecting the trail corridors associated with national scenic trails and the high priority potential sites and segments of NHTs to the degrees necessary to ensure that the values for which each trail was established remain intact." Therefore, the BLM will be considering all impacts and intrusions to the NHTs, their associated historic landscapes, and all associated features, such as trail traces, grave sites, historic encampments, inscriptions, natural features frequently commented on by emigrants in journals, letters and diaries, or any other feature contributing to the historic significance of the trails. Additional NHTs will likely be designated amending the National Trails System Act. When these amendments occur, this notice will apply to those newly designated NHTs as well.

Strategy

The BLM will proceed in this objective by conducting a viewshed analysis on either side of the designated centerline of the NHTs in Wyoming (except, at this time, for the Nez Perce Trail) for the purpose of identifying and evaluating potential impacts to the trails, their associated historic landscapes, and their associated historic features. Subject to the viewshed analysis and archeological inventory, reasonable mitigation measures may be applied. These may include, but are not limited to, modification of siting or design of facilities to camouflage or otherwise hide the proposed operations within the viewshed. Additionally, specification of interim and final reclamation measures may require relocating the proposed operations within the leasehold. Surface-disturbing activities will be analyzed in accordance with the National Environmental Policy Act of 1969 (Public Law 91-190; 42 U.S.C. 4321-4347) as amended through Public Law 94-52, July 3, 1975 and Public Law 94-83, August 9, 1975, and the National Historic Preservation Act, supra, to determine if any design, siting, timing, or reclamation requirements are necessary. This strategy is necessary until the BLM determines that, based on the results of the completed viewshed analysis and archeological inventory, the existing land use plans (Resource Management Plans) have to be amended.

The use of this lease notice is a predecisional action, necessary until final decisions regarding surface-disturbing restrictions are made. Final decisions regarding surface-disturbing restrictions will take place with full public disclosure and public involvement over the next several years if the BLM determines that it is necessary to amend existing land use plans.

Guidance

The intent of this notice is to inform interested parties (potential lessees, permittees, operators) that when any oil and gas lease contains remnants of NHTs, or is located within the viewshed of an NHT's designated centerline, surface-disturbing activities will require the lessee, permittee, or operator, or their designated representative, and the surface management agency to arrive at an acceptable plan for mitigation of anticipated impacts. This negotiation will occur prior to development and become a condition for approval when authorizing the action.

THIS NOTICE APPLIES TO ALL PARCELS

Lease Notice 3

Greater Sage-Grouse Habitat: The lease may in part, or in total, contain important greater sage-grouse habitats as identified by the BLM, either currently or prospectively. The operator may be required to implement specific measures to reduce impacts of oil and gas operations on the greater sage-grouse populations and habitat quality. Such measures shall be developed during the Application for Permit to Drill onsite and environmental review process and will be consistent with the lease rights granted.

THIS NOTICE APPLIES TO ALL PARCELS

Attachment to Each Lease

Notice to Lessee

Provisions of the Mineral Leasing Act of 1920, as amended by the Federal Coal Leasing Amendments Act of 1976, affect an entity's qualifications to obtain an oil and gas lease. Section 2(a)(2)(A) of the Mineral Leasing Act, 30 U.S.C. 201 (a)(2)(A), requires that any entity that holds and has held a federal coal lease for 10 years beginning on or after August 4, 1976, and who is not producing coal in commercial quantities from each such lease, cannot qualify for the issuance of any other lease granted under the Mineral Leasing Act. Compliance by coal lessees with Section 2(a)(2)(A) is explained in 43 CFR 3472.

In accordance with the terms of this oil and gas lease, with respect to compliance by the initial lessee with qualifications concerning federal coal lease holdings, all assignees and transferees are hereby notified that this oil and gas lease is subject to cancellation if (1) the initial lessee as assignor or as transfer or has falsely certified compliance with Section 2(a)(2)(A), or (2) because of a denial or disapproval by a State Office of a pending coal action (i.e., arms-length assignment, relinquishment, or logical mining unit), the initial lessee as assignor or as transferor is no longer in compliance with Section 2(a)(2)(A). The assignee, sublessee, or transferee does not qualify as a bona fide purchaser and, thus, has no rights to bona fide purchaser protection in the event of cancellation of this lease due to noncompliance with Section 2(a)(2)(A).

Information regarding assignor, sublessor, or transferor compliance with Section 2(a)(2)(A) is contained in the lease case file as well as in other BLM records available through the State Office issuing this lease.

THIS STIPULATION APPLIES TO ALL PARCELS

Lease Stipulations 1

This lease may be found to contain historic properties and/or resources protected under the National Historic Preservation Act, American Indian Religious Freedom Act, Native American Graves Protection and Repatriation Act, Executive Order 13007, or other statutes and executive orders. The BLM will not approve any ground disturbing activities that may affect any such properties or resources until it completes its obligations (e.g., State Historic Preservation Officer and tribal consultation) under applicable requirements of the National Historic Preservation Act and other authorities. The BLM may require modification to exploration or development proposals to protect such properties, or disapprove any activity that is likely to result in adverse effects that cannot be successfully avoided, minimized, or mitigated.

Lease Stipulations 2

ENDANGERED SPECIES ACT SECTION 7 CONSULTATION STIPULATION

The lease area may now or hereafter contain plants, animals, or their habitats determined to be threatened, endangered, or other special status species. The BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid BLM-approved activity that will contribute to a need to list such a species or their habitat. The BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. The BLM will not approve any ground-disturbing activity that may affect any such species or critical habitat until it completes its obligations under applicable requirements of the Endangered Species Act as amended (16 U.S.C. § 1531 et seq.), including completion of any required procedure for conference or consultation.

THIS STIPULATION APPLIES TO ALL PARCELS

Lease Stipulations 3

MULTIPLE MINERAL DEVELOPMENT STIPULATION

Operations will not be approved which, in the opinion of the Authorized Officer, would unreasonably interfere with the orderly development and/or production from a valid existing mineral lease issued prior to this one for the same lands.

THIS STIPULATION APPLIES TO ALL PARCELS

Resource Protection Oil and Gas Stipulations

In addition to the exception, modification, and waiver criteria identified in the stipulations that follow (see TableOilandGasStipulations (p. 263)), the provisions of Appendix C (p. 193) *Exception, Modification, and Waiver Criteria, Avoidance Criteria, and Special Management for Designated Corridors* also apply. The acreage in the following table is not additive because many of the stipulations overlap, such as limits for slope and Areas of Critical Environmental Concern.

Table I.1. Oil and Gas Stipulations

Decision	Stipulation
Decision: 1013	**Stipulation Type: CSU**
Decision Language:	Surface-disturbing activities will be open with CSU restrictions in areas with limited reclamation potential soils.
Protected Resource:	Limited reclamation potential soils
Approximate Acres Affected:	957,574
Stipulation Description:	**Stipulation:** Surface occupancy or use will be restricted in areas identified as limited reclamation potential soils (1) as mapped on the Lander Field Office GIS database and (2) to protect sensitive soil resources. **Exception:** The Authorized Officer may grant an exception if it is determined that the action will meet the designated RMP performance standards identified in Appendix B (p. 187). Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Modification:** The Authorized Officer may modify the area subject to the stipulation based on a NRCS soil survey or BLM evaluation or monitoring results, or if it is determined that the lease action(s) is/are not located within identified limited reclamation potential soils. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Waiver:** The Authorized Officer may grant a waiver if it is determined that the entire lease area does not include limited reclamation potential soils as determined from NRCS mapping and/or BLM evaluation of the area. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.)
Decision: 1014	**Stipulation Type: CSU**
Decision Language:	Manage slopes between 15 and 24 percent with CSU restrictions.
Protected Resource:	Slopes between 15 and 24 percent
Approximate Acres Affected:	292,671

Decision	Stipulation
Stipulation Description:	Surface occupancy or use will be restricted on slopes between 15 and 24 percent (1) as mapped on the Lander Field Office GIS database and (2) to protect areas containing slopes between 15 and 24 percent. **Exception:** The Authorized Officer may grant an exception if it is determined that the proposed action will meet the designated RMP performance standards as identified in Appendix B (p. 187), through engineered construction and/or reclamation plans. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Modification:** The Authorized Officer may modify the area subject to the stipulation based on a BLM evaluation or monitoring results that show that the action is not located within sensitive soil areas or that the action can meet the RMP-designated performance standards identified in Appendix B (p. 187). Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Waiver:** The Authorized Officer may grant a waiver if it is determined that the entire lease area does not include soils with slopes between 15 percent and 24 percent or that the lease action(s) can meet the RMP-designated performance standards identified in Appendix B (p. 187). Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.)
Decision: 1014	**Stipulation Type: NSO**
Decision Language:	Prohibit surface-disturbing activities on slopes greater than 25 percent.
Protected Resource:	Slopes greater than 25 percent
Approximate Acres Affected:	182,345

Decision	Stipulation
Stipulation Description:	No surface occupancy or use is allowed on slopes greater than 25 percent (1) as mapped on the Lander Field Office GIS database and (2) to protect areas containing slopes greater than 25 percent. **Exception:** The Authorized Officer may grant an exception if it is determined that the proposed action will meet the RMP-designated performance standards identified in Appendix B (p. 187) through engineering, construction, and/or reclamation plans. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Modification:** The Authorized Officer may modify the area subject to the stipulation based on a BLM evaluation or monitoring results that show that the lease action(s) is/are not located within sensitive soil areas or that the lease action(s) can meet the RMP-designated performance standards identified in Appendix B (p. 187). Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Waiver:** The Authorized Officer may grant a waiver if a BLM evaluation of the area determines that the entire lease area does not include slopes greater than 25 percent or that the lease action(s) can meet the RMP-designated performance standards identified in Appendix B (p. 187). Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.)
Decision: 1045	**Stipulation Type: NSO**
Decision Language:	Mineral development in areas underlain by an identified sole source aquifer is managed with Category 3 restrictions (NSO).
Protected Resource:	Sole source aquifers
Approximate Acres Affected:	As mapped

Decision	Stipulation
Stipulation Description:	No surface occupancy or use is allowed within identified sole source aquifers (1) as mapped on the Lander Field Office GIS database and (2) to protect identified sole source aquifers. **Exception:** The Authorized Officer may grant an exception if it is determined that the proposed action would not impair Wyoming DEQ designated uses, in coordination with the Wyoming DEQ. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Modification:** The Authorized Officer may modify the area subject to the stipulation if it is determined that the lease action(s) is/are not within a mapped sole source aquifer, in coordination with the Wyoming DEQ. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Waiver:** The Authorized Officer may grant a waiver if it is determined that the entire lease area does not include sole source aquifers, in coordination with the Wyoming DEQ. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.)
Decision: 2024	**Stipulation Type: NSO**
Decision Language:	29,567 acres in the Beaver Rim Master Leasing Plan area are open to oil and gas leasing subject to an NSO stipulation.
Protected Resource:	Unique plant communities, cultural sites, viewshed, and geologic resources of the Beaver Rim Master Leasing Plan area.
Approximate Acres Affected:	29,567

Decision	Stipulation
Stipulation Description:	No surface use or occupancy is allowed on 29,567 acres of the Beaver Rim Master Leasing Plan area (1) as mapped on the Lander Field Office GIS database and (2) to protect unique plant communities, cultural sites, viewshed, and geologic resources in the Beaver Rim Master Leasing Plan area. **Exception:** The Authorized Officer may grant an exception if it is determined that the proposed action is of a scale, sited in a location, or otherwise designed so that the action will not result in adverse impacts to the unique plant communities, cultural sites, viewshed, and geologic resources within the Beaver Rim Master Leasing Plan area. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Modification:** The Authorized Officer may modify the area subject to the stipulation if it is determined that the lease action(s) is/are not located within the NSO area or if it is determined that the action is of a scale, sited in a location, or otherwise designed so that the action will not result in adverse impacts to the unique plant communities, cultural sites, viewshed, and geologic resources within the Beaver Rim Master Leasing Plan area. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Waiver:** The Authorized Officer may grant a waiver if it is determined that the entire lease area is no longer located within the defined Beaver Rim Master Leasing Plan NSO area. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.)
Decision: 2024	**Stipulation Type: NSO**
Decision Language:	The remainder of the Beaver Rim Master Leasing Plan area (121,255 acres) is open to oil and gas leasing subject to CSU stipulations. If any of these acres are determined to be within a mapped floodplain before the lease is issued, an NSO stipulation, rather than a CSU stipulation, will be applied.
Protected Resource:	100-year floodplains within the Beaver Rim Master Leasing Plan area
Approximate Acres Affected:	As mapped

Decision	Stipulation
Stipulation Description:	No surface use or occupancy is allowed within 100-year floodplains (1) as mapped on the Lander Field Office GIS database and (2) to protect 100 year floodplains within the Beaver Rim Master Leasing Plan area. **Exception:** The Authorized Officer may grant an exception if it is determined that the proposed action is of a scale, sited in a location, or otherwise designed so that the action will not result in adverse impacts to water or riparian-wetland quality within the Beaver Rim Master Leasing Plan area 100-year floodplain, or if the proposed action is not located within a mapped 100-year floodplain based on a BLM field evaluation. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Modification:** The Authorized Officer may modify the area subject to the stipulation if it is determined that the lease action(s) is/are of a scale, sited in a location, or otherwise designed so that the action will not result in adverse impacts to water or riparian-wetland quality or is not located within a mapped Beaver Rim Master Leasing Plan area 100-year floodplain based on a BLM field evaluation. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Waiver:** The Authorized Officer may grant a waiver if it is determined that the entire lease area does not include Beaver Rim Master Leasing Plan area 100-year floodplains based on a BLM field evaluation. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.)
Decision: 2024	**Stipulation Type: CSU**
Decision Language:	Portions of the Beaver Rim Master Leasing Plan area not managed as NSO (121,255 acres; see Map 47), are open to oil and gas leasing subject to CSU stipulations.
Protected Resource:	Unique plant communities, cultural sites, viewshed, geologic resources, wild horse migration routes, and riparian-wetland resources of the Beaver Rim Master Leasing Plan area.
Approximate Acres Affected:	121,255

Decision	Stipulation
Stipulation Description:	Surface occupancy or use will be restricted on 121,255 acres in the Beaver Rim Master Leasing Plan area (1) as mapped on the Lander Field Office GIS database and (2) for the protection of unique plant communities, cultural sites, viewshed, geologic resources, wild horse migration routes, and riparian-wetland resources of the Beaver Rim Master Leasing Plan area. **Exception:** The Authorized Officer may grant an exception if it is determined that the proposed action will not result in loss of setting for cultural resources or degrade the viewshed or geologic resources, unique plant communities and riparian-wetland areas, or impede wild horse migration. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Modification:** The Authorized Officer may modify the area subject to the stipulation if it is determined that the lease action(s) would not result in a loss of setting of cultural resources or degrade the viewshed or geologic resources, or does not contain wild horse migration areas, riparian-wetland resources, or unique plant communities, or if a portion of the leasehold is not located within the Beaver Rim Master Leasing Plan area. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Waiver:** The Authorized Officer may grant a waiver if it is determined that the entire lease area does not contain wild horse migration areas or unique plant communities, and does not contribute to the setting of cultural resources or important visual resources, or if the entire leasehold is not located within the Beaver Rim Master Leasing Plan area. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.)
Decision: 2031	**Stipulation Type: NSO**
Decision Language:	Pending the results of tribal consultation, do not authorize surface disturbance within 0.25 mile of sites known to be of interest to Native American tribes (e.g., stone circles, cairns, rock art) as mapped in the Lander Field Office GIS database. Following tribal consultation, apply site-specific management that will protect Native American spiritual and/or cultural values.
Protected Resource:	Native American spiritual and/or cultural values.
Approximate Acres Affected:	As mapped

Decision	Stipulation
Stipulation Description:	No surface use or occupancy is allowed within 0.25 mile of National Register of Historic Places-eligible Native America cultural resource sites (1) as mapped on the Lander Field Office GIS database and (2) for the protection of Native American spiritual and/or cultural values. **Exception:** The Authorized Officer may grant an exception if, after consultation with Native American tribes and the State Historic Preservation Office, it is determined that the proposed action will result in a determination of no adverse effect on the sacred, spiritual, and/or traditional nature of the property(ies). Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Modification:** This stipulation may be modified if the lease action(s) will result in a determination of no adverse effect, or if the site is no longer considered eligible under National Register of Historic Places, or if in consultation with Native American tribes and the State Historic Preservation Office, it is determined that the identified property's sacred, spiritual, and/or traditional values have been downgraded and/or the tribes have reduced the previous avoidance distance around the site. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Waiver:** The Authorized Officer may grant a waiver if it is determined, in consultation with Native American tribes and the State Historic Preservation Office, that the identified site is no longer considered sacred, spiritual, and/or traditional, or if it is determined that the entire lease area does not include sites known to be of interest to Native American tribes and/or have spiritual or cultural values. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.)
Decision: 4031	**Stipulation Type: NSO**
Decision Language:	Prohibit surface-disturbing activities within 500 feet of surface water, riparian-wetland areas, and playas.
Protected Resource:	Perennial surface waters, riparian-wetland areas, and playas
Approximate Acres Affected:	146,237

Decision	Stipulation
Stipulation Description:	No surface occupancy or use is allowed within 500 feet of perennial surface waters, riparian-wetland areas, and/or playas (1) as mapped on the Lander Field Office GIS database and (2) to protect perennial surface waters, riparian-wetland areas, and/or playas. **Exception:** The Authorized Officer may grant an exception if, based on an evaluation by the BLM, it is determined that the proposal would not adversely affect perennial surface waters, riparian-wetland areas, and/or playas. The Authorized Officer may grant an exception within Designated Development Areas if it is determined that less distance would provide equivalent protection to perennial surface waters, riparian-wetland areas, and/or playas. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Modification:** The Authorized Officer may modify the area subject to the stipulation if, based on an evaluation by the BLM, it is determined that the proposal is not located within 500 feet of perennial surface waters, riparian-wetland areas, and/or playas. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Waiver:** The Authorized Officer may grant a waiver if it is determined that the entire lease area is not within 500 feet of perennial surface waters, riparian-wetland areas, and/or playas. This determination will be based on an evaluation by the BLM. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.)
Decision: 4031	**Stipulation Type: NSO**
Decision Language:	Outside Designated Development Areas, prohibit surface-disturbing activities within 500 feet of surface water, riparian-wetland areas, and playas.
Protected Resource:	Perennial surface waters, riparian-wetland areas, and playas
Approximate Acres Affected:	As mapped

Decision	Stipulation
Stipulation Description:	No surface occupancy or use is allowed within 500 feet of perennial surface waters, riparian-wetland areas and/or playas (1) as mapped on the Lander Field Office GIS database and (2) to protect perennial surface waters, riparian-wetland areas, and/or playas. **Exception:** The Authorized Officer may grant an exception if, based on an evaluation by the BLM, it is determined that the proposal would not adversely affect perennial surface waters, riparian-wetland areas, and/or playas. The Authorized Officer may grant an exception outside Designated Development Areas if it is determined that less distance would provide equivalent protection to perennial surface waters, riparian-wetland areas, and/or playas. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Modification:** The Authorized Officer may modify the area subject to the stipulation if, based on an evaluation by the BLM, it is determined that the proposal is not located within 500 feet of perennial surface waters, riparian-wetland areas, and/or playas. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Waiver:** The Authorized Officer may grant a waiver if it is determined that the entire lease area is not within 500 feet of perennial surface waters, riparian-wetland areas, and/or playas. This determination will be based on an evaluation by the BLM. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.)
Decision: 4045	**Stipulation Type: NSO**
Decision Language:	To protect wildlife, viewsheds, cultural resources, and other values, mineral management on 306,360 acres in the Hudson to Atlantic City area (including the Twin Creek and Beaver Rim ACECs and a portion of the South Pass Historical Landscape; see Map 46) is open to oil and gas leasing subject to NSO stipulations.
Protected Resource:	Wildlife, viewsheds, cultural resources, and other values in the Hudson to Atlantic City area
Approximate Acres Affected:	306,360

Decision	Stipulation
Stipulation Description:	No surface use or occupancy is allowed within the designated Hudson to Atlantic City area (1) as mapped on the Lander Field Office GIS database and (2) for the protection of wildlife, cultural resources, viewshed, and/or recreational use(s) in the Hudson to Atlantic City area. **Exception:** The Authorized Officer may grant an exception if it is determined that the action, as proposed or conditioned, would not adversely impact the wildlife, cultural resources, viewshed, and/or recreational use(s) of the area, in coordination with the appropriate state agency (State Historic Preservation Office and/or the WGFD). Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Modification:** The Authorized Officer may modify the area subject to the stipulation or surface occupancy criteria if after consultation with the appropriate state agency (State Historic Preservation Office or WGFD) it is determined that a portion of the NSO area is not essential to the protection of the wildlife, cultural resource, viewshed and recreational use values. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Waiver:** The Authorized Officer may grant a waiver if it is determined by the BLM, in coordination with the National Park Service in the case of the national historic trails, the U.S. Forest Service in connection with the national scenic trail, or the WGFD in connection with wildlife species, that the area is no longer considered to contribute to sensitive resource values. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.)
Decision: 4053	**Stipulation Type: Timing Limitation Stipulation**
Decision Language:	Spring spawning is protected March 15 to July 31.
Protected Resource:	Spring spawning habitat in fish-bearing streams
Approximate Acres Affected:	As mapped

Decision	Stipulation
Stipulation Description:	Surface-disturbing and disruptive activities are prohibited within the identified bankfull channel width of fish-bearing streams (1) as mapped on the Lander Field Office GIS database, (2) from March 15 to July 31, and (3) for the protection of spring spawning habitat in fish bearing streams. **Exception:** The Authorized Officer may grant an exception if the operator demonstrates that spawning habitat is not occupied during the period of concern, subject to confirmation by the BLM, in coordination with the WGFD, as appropriate, or if it is determined that the action will not impair the function or suitability of the habitat. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Modification:** The BLM Authorized Officer may modify the area subject to the stipulations based on a determination by the BLM, in coordination with WGFD, as appropriate, that the lease area does not contain fish-bearing streams or suitable fish spawning habitat or stream segments compatible with fish passage. The stipulation may also be modified based on negative or positive monitoring results. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Waiver:** The Authorized Officer may grant a waiver if it is determined that the entire lease area does not contain fish-bearing streams, suitable fish spawning habitats, or stream segments compatible with fish passage. This determination shall be based on a BLM evaluation, in coordination with the WGFD. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.)
Decision: 4053	**Stipulation Type: Timing Limitation Stipulation**
Decision Language:	Fall spawning is protected September 15 to November 30.
Protected Resource:	Fall spawning habitat in fish-bearing streams
Approximate Acres Affected:	As mapped

Decision	Stipulation
Stipulation Description:	Surface-disturbing and disruptive activities are prohibited within the identified bankfull channel width of fish-bearing streams (1) as mapped on the Lander Field Office GIS database, (2) from September 15 to November 30 and (3) to protect fall spawning habitat in fish-bearing streams. **Exception:** The Authorized Officer may grant an exception if the operator demonstrates that spawning habitat is not occupied during the period of concern, subject to confirmation by the BLM, in coordination with WGFD, as appropriate, or if it is determined that the action will not impair the function or the suitability of the habitat. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Modification:** The BLM Authorized Officer may modify the area subject to the stipulations based on a determination by the BLM, in coordination with WGFD, as appropriate, that the lease area does not contain fish-bearing streams, suitable fish spawning habitat, or stream segments compatible with fish passage. The stipulation may also be modified based on negative or positive monitoring results. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Waiver:** The Authorized Officer may grant a waiver if it is determined that the entire lease area does not contain fish-bearing streams or suitable fish spawning habitat or fish passage compatible stream segments. This determination shall be based on a BLM evaluation, in coordination with the WGFD, as appropriate. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.)
Decision: 4061	**Stipulation Type: Timing Limitation Stipulation**
Decision Language:	Prohibit surface-disturbing and disruptive activities in identified big game parturition areas from May 1 to June 30.
Protected Resource:	Big Game Parturition Areas
Approximate Acres Affected:	42,474

Decision	Stipulation
Stipulation Description:	Surface-disturbing and disruptive activities are prohibited in identified big game parturition areas (1) as mapped on the Lander Field Office database, (2) from May 1 to June 30, and (3) to protect big game parturition areas. **Exception:** The Authorized Officer may grant an exception if the operator demonstrates that the parturition areas are not occupied during the period of concern, subject to a determination by the BLM in coordination with the WGFD, in consideration of the factors described in Appendix C (p. 193). Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Modification:** The BLM Authorized Officer may modify the area subject to the stipulations based on an evaluation by the BLM, in coordination with WGFD, to determine that parturition areas are not present or boundaries of the subject parturition areas have been refined. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Waiver:** The Authorized Officer may grant a waiver if it is determined that the entire lease area does not contain parturition areas. This determination shall be based on an evaluation by the BLM, in coordination with the WGFD. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.)
Decision: 4062	**Stipulation Type: Timing Limitation Stipulation**
Decision Language:	Prohibit surface-disturbing and disruptive activities within identified elk winter range from November 15 to April 30.
Protected Resource:	Elk winter range
Approximate Acres Affected:	215,429

Decision	Stipulation
Stipulation Description:	Surface-disturbing and disruptive activities are prohibited in identified elk winter ranges (1) as mapped on the Lander Field Office GIS database, (2) from November 15 to April 30, and (3) to protect elk winter range. **Exception:** The Authorized Officer may grant an exception if the operator demonstrates that the elk winter range areas are not occupied during the period of concern, subject to confirmation by the BLM, in coordination with the WGFD, in consideration of the factors described in Appendix C (p. 193). Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Modification:** The Authorized Officer may modify the area subject to the stipulations based on BLM evaluation, in coordination with the WGFD, to determine that the elk winter range is not present or boundaries of the subject winter range areas have been refined. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Waiver:** The Authorized Officer may grant a waiver if it is determined that the entire lease area is no longer managed as elk winter range. This determination shall be based on BLM evaluations of the area, in coordination with the WGFD. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.)
Decision: 4070	**Stipulation Type: NSO**
Decision Language:	For the protection of wildlife and viewshed, 7,383 acres south of the Green Mountain ACEC is open to oil and gas leasing subject to NSO stipulations; see Map 11).
Protected Resource	Wildlife and viewsheds
Approximate Acres Affected	7,383

Decision	Stipulation
Stipulation Description:	To protect wildlife parturition areas, viewshed, and recreational use, mineral management of 7,383 acres south of Green Mountain (see Map 11) is open to oil and gas leasing subject to NSO stipulations. **Exception:** The Authorized Officer may grant an exception if it is determined that the action, as proposed or conditioned, would not adversely impact the wildlife, viewshed, and/or recreational use(s) of the area, in coordination with the appropriate state agency (WGFD or State Historic Preservation Office). Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Modification:** The Authorized Officer may modify the area subject to the stipulation or surface occupancy criteria if, after consultation with the appropriate state agency (WGFD or State Historic Preservation Office) it is determined that a portion of the NSO area is not essential to the protection of the wildlife, cultural resources, viewshed, and recreational use values. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Waiver:** The Authorized Officer may grant a waiver if it is determined by the BLM, in coordination with the National Park Service in the case of the national historic trails, the U.S. Forest Service in connection with the national scenic trail, or the WGFD in conjunction with wildlife species, that the area is no longer considered to contribute to the sensitive resource values. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.)
Decision: 4071 and 4093	**Stipulation Type: Timing Limitation Stipulation**
Decision Language:	Prohibit surface-disturbing and disruptive activities within 0.75 mile of active raptor nests, except ferruginous hawk and bald eagle nests, where surface-disturbing and disruptive activities are prohibited within 1 mile during the following periods: ● February 1 to July 31 for all raptors except bald eagles, northern goshawk, and burrowing owl ● February 1 to August 15 for bald eagles ● April 1 to August 31 for northern goshawk ● April 1 to September 15 for burrowing owl
Protected Resource:	Raptors
Approximate Acres Affected:	As mapped

Decision	Stipulation
Stipulation Description:	Surface-disturbing and disruptive activities are restricted or prohibited within 1 mile of bald eagle and ferruginous hawk nests and 0.75 mile of all other active raptor nests (1) as mapped on the Lander Field Office GIS database, (2) during the following time periods: ● April 1 to August 31 for northern goshawk ● April 1 to September 15 for burrowing owl ● February 1 to August 15 for bald and/or golden eagles ● February 1 to July 31 for all other raptors and (3) for the protection of active raptor nests. **Exception:** The Authorized Officer may grant an exception if the operator demonstrates that there are no active or occupied nests during the period of concern, subject to confirmation by the BLM, in coordination with the WGFD and/or USFWS, as necessary. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Modification:** The BLM Authorized Officer may modify the area subject to the stipulations based on a BLM evaluation, in coordination with the WGFD and/or the USFWS, as necessary. The stipulation may be modified based on negative or positive monitoring results, or if it is determined that the action will not impair the function or the suitability of the habitat, or cause nest abandonment. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Waiver:** The Authorized Officer may grant a waiver if it is determined that the entire lease area does not contain active raptor nests or suitable habitat for raptors. This determination shall be based on a BLM evaluation of the area, in coordination with the WGFD and/or the USFWS, as necessary. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.)
Decision: 4084	**Stipulation Type: NSO**
Decision Language:	Prohibit surface-disturbing activities and apply an NSO restriction to mineral leasing activities within the Cedar Rim population and critical habitat of *Yermo xanthocephalu* (desert yellowhead).
Protected Resource:	*Yermo xanthocephalu*
Approximate Acres Affected:	442

Decision	Stipulation
Stipulation Description:	No surface occupancy or use is allowed within desert yellowhead population management areas (1) as mapped on the Lander Field Office GIS database and (2) for the protection of desert yellowhead. **Exception:** The Authorized Officer may grant an exception only following USFWS consultation and concurrence with a BLM determination of not likely to adversely affect the species or its designated critical habitat. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Modification:** The Authorized Officer may modify the area subject to the stipulation only following USFWS consultation and concurrence with a BLM determination of not likely to adversely affect the species or its designated critical habitat. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Waiver:** The Authorized Officer may grant a waiver if it is determined by the BLM, in coordination with the USFWS, that the leasehold is no longer capable of supporting managed populations of desert yellowhead. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.)
Decision: 4088	**Stipulation Type: NSO**
Decision Language:	Prohibit surface-disturbing activities within 200 feet of occupied pygmy rabbit habitat.
Protected Resource:	Occupied pygmy rabbit habitat
Approximate Acres Affected:	As mapped

Decision	Stipulation
Stipulation Description:	No surface occupancy or use within 200 feet of occupied pygmy rabbit habitat (1) as mapped in the Lander Field Office GIS database and (2) for the protection of occupied pygmy rabbit habitat. **Exception:** The Authorized Officer may grant an exception if it is determined that pygmy rabbits are not present or it is determined that the action is not sited within 200 feet of occupied pygmy rabbit habitat, or if it is determined that the action is sited in a location where the action will not cause physical injury or a decrease in productivity by interfering with normal breeding, feeding, and sheltering, or cause site abandonment. This determination shall be based on evaluation by a qualified biologist, subject to confirmation by the BLM in coordination with the WGFD and/or the USFWS, as appropriate. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Modification:** The Authorized Officer may modify the area subject to the stipulations based on a BLM evaluation in coordination with the WGFD and/or the USFWS, as appropriate, if it is determined that a portion of the NSO area is not occupied. The stipulation may be modified based on negative or positive monitoring results. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Waiver:** The Authorized Officer may grant a waiver if it is determined that the entire lease area does not contain occupied pygmy rabbit habitat. This determination shall be based on a BLM evaluation of the area in coordination with the WGFD and/or the USFWS, as appropriate. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.)
Decision: 4094	**Stipulation Type: Timing Limitation Stipulation**
Decision Language:	To protect mountain plover habitat, including an 0.25-mile buffer, prohibit surface-disturbing and disruptive activities from April 10 to July 10 unless surveys indicate the absence of breeding/nesting mountain plover.
Protected Resource:	Mountain plover nesting habitat
Approximate Acres Affected	As mapped

Decision	Stipulation
Stipulation Description:	Surface-disturbing and disruptive activities are restricted or prohibited within 0.25 mile of identified mountain plover habitat (1) as mapped on the Lander GIS database, (2) from April 10 to July 10, and (3) for the protection of mountain plover nesting habitat. **Exception:** The Authorized Officer may grant an exception if the operator demonstrates that there are no active or occupied mountain plover nests during the period of concern, subject to confirmation by the BLM, in coordination with the WGFD, as appropriate. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Modification:** The Authorized Officer may modify the area subject to the stipulations based on a BLM evaluation, in coordination with the WGFD and/or the USFWS, as necessary. The stipulation may be modified based on negative or positive monitoring results, or if it is determined that the action will not impair the function or the suitability of the habitat, or cause nest abandonment. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Waiver:** The Authorized Officer may grant a waiver if it is determined that the entire lease area does not contain suitable mountain plover habitat. This determination shall be based on a BLM evaluation of the area in coordination with WGFD and/or USFWS, as necessary. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.)
Decision: 4095	**Stipulation Type: NSO**
Decision Language:	Prohibit surface-disturbing and disruptive activities within 0.25 mile of identified bat maternity roosts and hibernation areas that would adversely impact bats and their habitat.
Protected Resource:	Identified bat maternity roosts and hibernation sites.
Approximate Acres Affected:	As mapped

Decision	Stipulation
Stipulation Description:	No surface occupancy or use within 0.25 mile of identified bat maternity roosts and hibernation sites, (1) as mapped in the Lander Field Office GIS database, (2) for the protection of identified bat maternity roosts and hibernation sites **Exception:** The Authorized Officer may grant an exception if it is determined that bat species are not present or it is determined that the action is not sited within 0.25 mile of identified maternity roosts and/or hibernation sites. Or if it is determined that the action is sited in a location where the action will not cause physical injury or a decrease in productivity by interfering with normal breeding, feeding, sheltering, or cause site abandonment. This determination shall be based on evaluation by a qualified biologist, subject to confirmation by the BLM in coordination with the WGFD and/or USFWS, as appropriate. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Modification:** The Authorized Officer may modify the area subject to the stipulations based on a BLM evaluation, in coordination with the WGFD and/or the USFWS, as appropriate, if it is determined that a portion of the NSO area is not occupied. The stipulation may be modified based on negative or positive monitoring results. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Waiver:** The Authorized Officer may grant a waiver if it is determined that the entire lease area does not contain suitable bat maternity or hibernation habitat. This determination shall be based on a BLM evaluation of the area in coordination with the WGFD and/or the USFWS, as appropriate. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.)
Decision: 4104	**Stipulation Type: NSO**
Decision Language:	Prohibit surface-disturbing or surface occupancy on or within an 0.6-mile radius of the perimeter of occupied greater sage-grouse leks in Core Area.
Protected Resource:	Occupied greater sage-grouse leks inside designated Core Area
Approximate Acres Affected:	93,411

Decision	Stipulation
Stipulation Description:	No surface occupancy or use is allowed within an 0.6-mile radius of the perimeter of occupied greater sage-grouse leks in Core Area (1) as mapped on the Lander Field Office GIS database and (2) to protect occupied greater sage-grouse leks and associated seasonal habitat, life-history, or behavioral needs of greater sage-grouse in proximity to leks from habitat fragmentation and loss, and protect greater sage-grouse populations from disturbance inside designated Core Area. **Exception:** The Authorized Officer may grant an exception if an environmental record of review determines that the action, as proposed or conditioned, would not impair the function or utility of the site for the current or subsequent seasonal habitat, life-history, or behavioral needs of greater sage-grouse. The BLM can and does grant exceptions if the BLM, in coordination with the WGFD and in consideration of the factors identified in Appendix C (p. 193), determines that granting an exception would not adversely impact the population being protected. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Modification:** The Authorized Officer may modify the area subject to the stipulation or the NSO criteria if an environmental record of review finds that a portion of the NSO area is not essential, or it is identified through scientific research or monitoring that the existing criteria are inadequate or overly protective for maintaining the function or utility of the site for the seasonal habitat, life-history, or behavioral needs of the greater sage-grouse, including (but not limited to) reproductive display, daytime loafing/staging activities, and nesting. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Waiver:** This stipulation may be waived over the entire lease if, in coordination with the WGFD, it is determined that the site is no longer considered in the land use plan to be within greater sage-grouse designated Core Area, or if greater sage-grouse are no longer a BLM sensitive or special status species and is not listed by the USFWS as threatened or endangered under the Endangered Species Act. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.)
Decision: 4104	**Stipulation Type: NSO**
Decision Language:	Prohibit surface-disturbing or surface occupancy on or within an 0.25-mile radius of the perimeter of occupied greater sage-grouse leks outside of Core Area.
Protected Resource:	Occupied greater sage-grouse leks outside designated Core Area

Decision	Stipulation
Approximate Acres Affected:	2,921
Stipulation Description:	No surface occupancy or use is allowed within an 0.25-mile radius of the perimeter of occupied greater sage-grouse leks (1) as mapped on the Lander Field Office GIS database and (2) to protect occupied greater sage-grouse leks and associated seasonal habitat, life-history, or behavioral needs of greater sage-grouse in proximity to leks from habitat fragmentation and loss, and to protect greater sage-grouse populations from disturbance outside designated Core Area. **Exception:** The Authorized Officer may grant an exception if an environmental record of review determines that the action, as proposed or conditioned, would not impair the function or utility of the site for the current or subsequent seasonal habitat, life-history, or behavioral needs of greater sage-grouse. The BLM can and does grant exceptions if the BLM, in coordination with the WGFD and in consideration of the factors identified in Appendix C (p. 193), determines that granting an exception would not adversely impact the population being protected. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Modification:** The Authorized Officer may modify the area subject to the stipulation or the NSO criteria if an environmental record of review finds that a portion of the NSO area is not essential, or it is identified through scientific research or monitoring that the existing criteria are inadequate or overly protective for maintaining the function or utility of the site for the seasonal habitat, life-history, or behavioral needs of greater sage-grouse, including (but not limited to) reproductive display, daytime loafing/staging activities, and nesting. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Waiver:** This stipulation may be waived over the entire lease if, in coordination with the WGFD, it is determined that the described lands are incapable of serving the long-term requirements of greater sage-grouse breeding, nesting, or brood-rearing habitat and that these ranges no longer warrant consideration as components of greater sage-grouse breeding, nesting, or brood-rearing habitat. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.)
Decision: 4105	**Stipulation Type: Timing Limitation Stipulation**
Decision Language:	Prohibit surface-disturbing and/or disruptive activities from March 15 to June 30 in Core Area.
Protected Resource:	Greater sage-grouse breeding, nesting, and early brood-rearing habitat inside designated Core Area

Decision	Stipulation
Approximate Acres Affected:	1,678,035
Stipulation Description:	Surface-disturbing and disruptive activities are restricted or prohibited in Core Area (1) as mapped on the Lander Field Office GIS database, (2) from March 15 to June 30, and (3) to seasonally protect greater sage-grouse breeding, nesting, and early brood-rearing habitats from disruptive activities inside designated Core Area. **Exception:** The Authorized Officer may grant an exception if an environmental record of review determines that the action, as proposed or conditioned, will not affect reproductive displays, nest attendance, egg or chick survival, or early brood-rearing success. Actions designed to enhance the long-term utility or availability of suitable greater sage-grouse habitat may be exempted from this timing limitation. The BLM can and does grant exceptions to seasonal restrictions if the BLM, in coordination with the WGFD, determines that granting an exception would not adversely impact the population being protected. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Modification:** The Authorized Officer may modify the size and shape of the Timing Limitation Stipulation area or the Timing Limitation Stipulation criteria if an environmental record of review indicates the actual habitat suitability for seasonal greater sage-grouse activities is more or less than the stipulated area, or it is identified through scientific research or monitoring that the existing criteria are inadequate or overly protective for maintaining the function or utility of the site for the seasonal habitat, life-history, or behavioral needs of greater sage-grouse, including (but not limited to) reproductive display, daytime loafing/staging activities, and nesting. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Waiver:** This stipulation may be waived over the entire lease if, in coordination with the WGFD, it is determined that the described lands are no longer considered in the land use plan to be within a greater sage-grouse designated Core Area or are incapable of serving the long-term requirements of greater sage-grouse breeding, nesting, or early brood-rearing habitat, and that these ranges no longer warrant consideration as components of greater sage-grouse breeding, nesting, or brood-rearing habitat. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.)
Decision: 4105	**Stipulation Type: Timing Limitation Stipulation**

Decision	Stipulation
Decision Language:	Prohibit surface-disturbing and/or disruptive activities within 2 miles of the perimeter of occupied greater sage-grouse leks outside of Core Area from March 15 to June 30 (Map 24). Where credible data support different timeframes for these seasonal restrictions, dates may be expanded 14 days prior to or subsequent to the above dates.
Protected Resource:	Greater sage-grouse breeding, nesting and early brood-rearing habitat outside designated greater sage-grouse Core Area
Approximate Acres Affected:	As mapped

Decision	Stipulation
Stipulation Description:	Surface-disturbing and disruptive activities are restricted or prohibited within 2 miles of the perimeter of occupied greater sage-grouse leks outside of Core Area (1) as mapped on the Lander Field Office GIS database, (2) from March 15 to June 30, and (3) to seasonally protect greater sage-grouse breeding, nesting and early brood-rearing habitats from disruptive activities within 2 miles of an occupied lek outside designated Core Area. **Exception:** The Authorized Officer may grant an exception if an environmental record of review determines that the action, as proposed or conditioned, will not affect reproductive displays, nest attendance, egg or chick survival, or early brood-rearing success. Actions designed to enhance the long-term utility or availability of suitable greater sage-grouse habitat may be exempted from this timing limitation. The BLM can and does grant exceptions to seasonal restrictions if the BLM, in coordination with the WGFD, determines that granting an exception would not adversely impact the population being protected. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Modification:** The Authorized Officer may modify the size and shape of the Timing Limitation Stipulation area or the Timing Limitation Stipulation criteria if an environmental record of review indicates the actual habitat suitability for seasonal greater sage-grouse activities is more or less than the stipulated area, or it is identified through scientific research or monitoring that the existing criteria are inadequate or overly protective for maintaining the function or utility of the site for the seasonal habitat, life-history, or behavioral needs of greater sage-grouse, including (but not limited to) reproductive display, daytime loafing/staging activities, and nesting. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Waiver:** This stipulation may be waived over the entire lease if, in coordination with the WGFD, it is determined that the described lands are incapable of serving the long-term requirements of greater sage-grouse breeding, nesting, or brood-rearing habitat and that these ranges no longer warrant consideration as components of greater sage-grouse breeding, nesting, or brood-rearing habitat. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.)
Decision: 4108	**Stipulation Type: Timing Limitation Stipulation**
Decision Language:	Prohibit surface-disturbing and disruptive activities in greater sage-grouse winter concentration areas, as they are identified, from December 1 to March 14.
Protected Resource:	Greater sage-grouse winter concentration areas

Decision	Stipulation
Approximate Acres Affected:	As mapped
Stipulation Description:	Surface-disturbing and disruptive activities are restricted or prohibited in greater sage-grouse winter concentration areas (1) as mapped on the Lander Field Office GIS database, (2) from December 1 to March 14, and (3) to seasonally protect greater sage-grouse winter concentration areas. **Exception:** The Authorized Officer may grant an exception if an environmental record of review determines that the action, as proposed or conditioned, will not impair the function and suitability of the winter concentration area, or it is determined that the winter concentration area is not occupied by concentrated populations of greater sage-grouse during the period of concern. Actions designed to enhance the long-term utility or availability of suitable greater sage-grouse habitat may be exempted from this timing limitation. The BLM can and does grant exceptions to seasonal restrictions if the BLM, in coordination with the WGFD, determines that granting an exception would not adversely impact the population being protected. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Modification:** The Authorized Officer may modify the size and shape of the Timing Limitation Stipulation area or the Timing Limitation Stipulation criteria if an environmental record of review indicates the actual habitat suitability for seasonal greater sage-grouse activities is more or less than the stipulated area, or it is identified through scientific research or monitoring that the existing criteria are inadequate or overly protective for maintaining the function or utility of the site for the seasonal habitat, life-history, or behavioral needs of greater sage-grouse, including (but not limited to) reproductive display, daytime loafing/staging activities, and nesting. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Waiver:** This stipulation may be waived over the entire lease if, in coordination with the WGFD, it is determined that the described lands are incapable of serving the long-term requirements of greater sage-grouse winter habitat and that these ranges no longer warrant consideration as components of greater sage-grouse winter habitat. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.)
Decision: 4109	**Stipulation Type: CSU**

Decision	Stipulation
Decision Language:	In greater sage-grouse Core Area, limit the density of disturbance of an activity (oil and gas or mining) to an average of one site per square mile (640 acres) within the DDCT. The one location and cumulative value of existing disturbances will not exceed 5 percent of suitable habitat of the DDCT area. Utilize the most current greater sage-grouse density disturbance process or other state and/or federal agreed-upon process for compliance evaluations.
Protected Resource:	Greater sage-grouse designated Core Area
Approximate Acres Affected:	1,678,035

Decision	Stipulation
Stipulation Description:	Surface occupancy or use will be restricted to no more than an average of one oil and gas or mining locations per 640 acres using the Density and Disturbance Calculation Tool, and the cumulative value of all applicable surface disturbances, existing or future, must not exceed 5 percent of the Density and Disturbance Calculation Tool area, as described in the Disturbance Density Calculation Tool manual (1) as mapped on the Lander Field Office GIS database and (2) to protect greater sage-grouse designated Core Area from habitat fragmentation and loss. This lease does not guarantee the lessee the right to occupy the surface of the lease for the purpose of producing oil and natural gas within greater sage-grouse designated Core Area. The surface occupancy restriction criteria identified in this stipulation may preclude surface occupancy and may be beyond the ability of the lessee to meet due to existing surface disturbance on federal, state, or private lands within designated Core Area, or surface disturbance created by other land users. The BLM may require the lessee or operator to enter into a unit agreement or drilling easement to facilitate the equitable development of this and surrounding leases. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Exception:** The Authorized Officer may grant an exception if an environmental record of review determines that the action, as proposed or conditioned, would not impair the function or utility of the site for the current or subsequent seasonal habitat, life-history, or behavioral needs of greater sage-grouse. An exception to the stated limits may be granted when offsite mitigation is determined to provide an overall beneficial impact to greater sage-grouse habitat and populations. The BLM can and does grant exceptions if the BLM, in coordination with the WGFD, determines that granting an exception would not adversely impact the population being protected. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Modification:** The Authorized Officer may modify the area subject to the stipulation or surface occupancy criteria if an environmental record of review finds that a portion of the CSU area is not essential, or it is identified through scientific research or monitoring that the existing criteria are inadequate or overly protective for maintaining the function or utility of the site for the seasonal habitat, life-history, or behavioral needs of greater sage-grouse, including (but not limited to) reproductive display, daytime loafing/staging activities, and nesting. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.)

Decision	Stipulation
	Waiver: The Authorized Officer may grant a waiver if it is determined by the BLM, in coordination with the WGFD, that the site is no longer considered in the land use plan to be within a greater sage-grouse designated Core Area, or greater sage-grouse are no longer a BLM sensitive or special status species and are not listed by the USFWS as threatened or endangered under the Endangered Species Act. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.)
Decision: 5018	**Stipulation Type: CSU**
Decision Language:	Outside of Designated Development Areas, protect the foreground of RHT&EHs up to 2 miles where setting is an important aspect of the integrity for the trail, and use best management practices (Appendix E (p. 217)) to avoid or mitigate adverse effects. Pursue site-specific protection plans or Memorandums of Agreement to protect the setting. Oil and gas in the area within 2 miles of RHT&EH is open to leasing subject to CSU stipulations.
Protected Resource:	RHT&EHs and their settings
Approximate Acres Affected:	435,346

Decision	**Stipulation**
Stipulation Description:	Surface use or occupancy will be restricted within a 2-mile buffer of RHT&EHs (1) as mapped on the Lander Field Office GIS database and (2) for the protection of the RHT&EHs and their settings. **Exception:** An exception may be granted if the Authorized Officer, in consultation with the State Historic Preservation Office, determines that the action, as proposed or conditioned, would not adversely impact RHT&EHs and their settings. No exception will be granted unless the BLM, in consultation with the State Historic Preservation Office, determines that granting an exception would not adversely impact trails' settings. The Authorized Officer may grant an exception if it is determined that a proposed action would not result in an adverse effect on the integrity of the trail. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Modification:** This stipulation may be modified if, in consultation with the State Historic Preservation Office, the BLM determines that modification would not affect the trail, and that the area no longer contributes to the setting. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Waiver:** This stipulation may be waived if, in consultation with the State Historic Preservation Office, the BLM determines that waiver would not affect the trail and that the area no longer contributes to the trail's setting. The stipulation may be waived if, in consultation with the State Historic Preservation Office, the BLM determines that the property is no longer considered National Register eligible. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.)
Decision: 5024	**Stipulation Type: NSO**
Decision Language:	Mineral development in the Cedar Ridge TCP is managed as follows: open to oil and gas leasing subject to NSO stipulations.
Protected Resource:	Cedar Ridge TCP
Approximate Acres Affected:	255

Decision	Stipulation
Stipulation Description:	No surface use or occupancy is allowed within the Cedar Ridge TCP, (1) as mapped on the Lander Field Office GIS database and (2) for the protection of the Cedar Ridge TCP. **Exception:** An exception may be granted if the Authorized Officer, in consultation with Native American tribes and the State Historic Preservation Office, determines that the action, as proposed or conditioned, would not adversely affect the sacred, spiritual, and/or traditional nature of the Cedar Ridge TCP. No exception will be granted unless the BLM, in consultation with the appropriate Native American tribes and the State Historic Preservation Office, determines that granting an exception would not adversely affect the area's spiritual and cultural resources and their settings. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Modification:** This stipulation may be modified if, in consultation with the appropriate tribes and the State Historic Preservation Office, the BLM determines that a modification would not adversely affect the TCP, and that the area no longer contributes to the TCP's important values. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Waiver:** The Authorized Officer may grant a waiver if it is determined by the BLM, in consultation with the appropriate Native American tribes and the State Historic Preservation Office, that a waiver would not affect the TCP, and that the area no longer contributes to the TCP's important values or that the TCP is no longer considered sacred, spiritual, and/or traditional. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.)
Decision: 5025	**Stipulation Type: CSU**
Decision Language:	Mineral development in the Cedar Ridge periphery is managed as follows: open to oil and gas leasing subject to CSU stipulations.
Protected Resource:	Cedar Ridge TCP periphery
Approximate Acres Affected:	3,284

Decision	Stipulation
Stipulation Description:	Surface use or occupancy will be restricted within the designated Cedar Ridge TCP periphery (1) as mapped on the Lander Field Office GIS database and (2) for the protection of the Cedar Ridge TCP periphery. **Exception:** An exception may be granted if the Authorized Officer in consultation with Native American tribes and the State Historic Preservation Office, determines that the action, as proposed or conditioned, would not adversely affect the sacred, spiritual, and/or traditional nature of the Cedar Ridge TCP and periphery. No exception will be granted unless the BLM, in consultation with the appropriate tribes and the State Historic Preservation Office, determine that granting an exception would not adversely impact the area's spiritual and cultural resources and their settings. The Authorized Officer may grant an exception if the BLM determines that a proposed action would not result in an adverse effect on the integrity of the property. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Modification:** This stipulation may be modified if, in consultation with the appropriate tribes and State Historic Preservation Office, the BLM determines that modification would not affect the TCP periphery, and that the area no longer contributes to the TCP's sacred, spiritual, and/or traditional values. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Waiver:** This stipulation may be waived if, in consultation with the appropriate tribes and State Historic Preservation Office, the BLM determines that waiver would not affect the TCP, and that the area no longer contributes to the TCP's important values. The stipulation may be waived if consultation with Native American tribes and State Historic Preservation Office determines that the property is no longer considered sacred, spiritual, and/or traditional. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.)
Decision: 5050	**Stipulation Type: NSO**
Decision Language:	Mineral leasing, mining, and realty actions in the established protection zones around the following sites (48FR301 [2,940 acres], 48FR311 [555 acres], 48FR3997 [1,045 acres], 48FR4070 [3,378 acres], 48FR4489 [930 acres], 48FR773 [588 acres], and 48FR6125 [770 acres]). New sacred sites, as they are identified and then verified by tribes and the BLM, are managed with the following restrictions (10,206 total acres): Open to oil and gas leasing subject to NSO stipulations.
Protected Resource:	Sacred, Spiritual, and TCPs.

Decision	Stipulation
Approximate Acres Affected	10,206
Stipulation Description:	No surface occupancy or use is allowed within designated Sacred, Spiritual, and TCPs, (1) as mapped on the Lander Field Office GIS database, (2) for the protection of Sacred, Spiritual, and TCPs. **Exception:** The Authorized Officer may grant an exception if consultation with Native American tribes or appropriate cultural group for the TCP, and the State Historic Preservation Office, determines that a proposed action would not result in an adverse effect to the sacred, spiritual, and/or traditional nature of the property. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Modification:** The Authorized Officer may modify the area subject to the stipulation if consultation with Native American tribes, or appropriate cultural group for the TCP, and the State Historic Preservation Office, determine that the identified property's sacred, spiritual, and/or traditional values have been downgraded and/or the tribes have reduced the previous avoidance distance around the site. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Waiver:** The Authorized Officer may grant a waiver if it is determined, in consultation with Native American tribes, or appropriate cultural group for the TCP, and the State Historic Preservation Office, that the identified site is no longer considered sacred, spiritual, and/or traditional. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.)
Decision: 5058	**Stipulation Type: CSU**
Decision Language:	Mineral management in areas with "very high" or "high" potential fossil yield classification (Map 29) is managed as follows (unless other, more restrictive management would apply, such as an ACEC designation): ● Open to oil and gas subject to CSU stipulations ● Open to geophysical exploration ● Open to geothermal leasing ● Open to solid mineral leasing ● Open to locatable minerals ● Open to mineral material disposals with restrictions on location
Protected Resource:	Very high or high potential fossil areas
Approximate Acres Affected:	1,057,835

Decision	Stipulation
Stipulation Description:	Surface use or occupancy will be restricted within designated “very high” or “high” potential fossil yield classification areas (1) as mapped on the Lander Field Office GIS database and (2) for the protection of fossil resources. **Exception:** An exception may be granted if the Authorized Officer determines that the action, as proposed or conditioned, would not adversely affect fossil resources. The Authorized Officer may grant an exception if the BLM determines that a proposed action would not result in an adverse effect on the integrity of the property. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Modification:** This stipulation may be modified if the BLM determines that modification would not affect the fossil resources, and that the area no longer contains fossil resource values. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Waiver:** This stipulation may be waived if the BLM determines that waiver would not affect fossil resources. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.)
Decision: 5066	**Stipulation Type: CSU**
Decision Language:	Prohibit surface-disturbing activities within important scenic areas (VRM Class I and II areas).
Protected Resource:	VRM Class I and II areas
Approximate Acres Affected	846,798

Decision	Stipulation
Stipulation Description:	Surface occupancy or use is restricted within designated VRM Class I and II areas (1) as mapped on the Lander Field Office GIS database and (2) for the protection of VRM Class I and II areas. **Exception:** The Authorized Officer may grant an exception if it is demonstrated through a BLM-approved visual simulation and contrast rating worksheet that the project or identified mitigation will meet or exceed VRM Class I or II objectives. This restriction does not apply to temporary structures such as drilling rigs. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Modification:** The Authorized Officer may modify the area subject to the stipulation or use restriction if it is demonstrated that VRM Class I or II objectives have been modified through appropriate RMP planning procedures, or if a portion of the lease is not located within a VRM Class I or II area. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Waiver:** The Authorized Officer may grant a waiver if it is determined that the entire leasehold is no longer managed for VRM Class I or II objectives based on planning, or if the entire leasehold is not located within a Class I or II area. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.)
Decision: 6086 and 6092	**Stipulation Type: NSO**
Decision Language:	Oil and gas leasing within the following developed recreation sites (Map 40) are open subject to NSO stipulations: ● Castle Gardens Archeology Site ● Atlantic City Campground ● Big Atlantic Gulch ● Cottonwood Campground ● Lands adjacent to Fremont County Green Mountain Campground area ● Miners Delight ● Wildhorse Point ● Devil's Gate Interpretive Site ● Martins Cove Trail ● Steamboat Lake Overlook ● Johnny Behind the Rocks RMZ
Protected Resource:	Recreation Areas and Developed Recreation Sites

Decision	Stipulation
Approximate Acres Affected:	● Castle Gardens Archeology Site (78 acres) ● Atlantic City Campground (184 acres) ● Big Atlantic Gulch (181 acres) ● Cottonwood Campground (80 acres) ● Lands adjacent to Fremont County Green Mountain Campground area (20 acres) ● Miners Delight (282 acres) ● Wildhorse Point (20 acres) ● Devil's Gate Interpretive Site (112 acres) ● Martins Cove Trail (1,033 acres) ● Steamboat Lake Overlook (128 acres) ● Johnny Behind the Rocks RMZ (4,828 acres)
Stipulation Description:	No surface use or occupancy is allowed within developed recreation sites (1) as mapped on the Lander Field Office GIS database and (2) for the protection of developed recreation sites. **Exception:** The Authorized Officer may grant an exception if the action can be developed in a way that meets the management objectives for the developed recreation site. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Modification:** The Authorized Officer may modify the area subject to the stipulation if the lease action(s) is/are no longer located within the mapped boundary of the subject recreation site, or if the proposed action can be developed in a way that meets the management objectives for the developed recreation site. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Waiver:** The Authorized Officer may grant a waiver if it is determined that the area is no longer managed under the Lander Approved RMP as a developed recreation site. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.)
Decision: 6124	**Stipulation Type: CSU**
Decision Language:	Management in the Sweetwater Rocks periphery (119,883 acres) with relevant and important values for the viewshed of the Sweetwater Rocks Complex Wilderness Study Area is VRM Class II, except the portion that is within the Lost Creek ROW corridor which is managed as Class III. Mineral management in the Sweetwater Rocks periphery is open to oil and gas leasing subject to CSU stipulations.
Protected Resource:	Sweetwater Rocks Periphery
Approximate Acres Affected:	119,883

Decision	Stipulation
Stipulation Description:	Surface use or occupancy is restricted within the Sweetwater Rocks viewshed (1) as mapped on the Lander Field Office GIS database and (2) to protect the Sweetwater Rocks periphery **Exception:** The Authorized Officer may grant an exception if the proposed project will maintain or enhance the scenic values of the Sweetwater Rocks periphery. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Modification:** The Authorized Officer may modify the stipulation, or the area subject to the stipulation, if the lease action(s) can be shown to maintain or enhance the scenic values of the Sweetwater Rocks periphery. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Waiver:** The Authorized Officer may grant a waiver if it is determined that the Sweetwater Rocks periphery is no longer managed under the Lander Approved RMP to maintain the scenic values of the area or if it is found that the entire leasehold is not located within the Sweetwater Rocks periphery. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.)
Decision: 7002	**Stipulation Type: NSO**
Decision Language:	Mineral actions in the National Trails Management Corridor are managed with the following prescriptions: open to oil and gas leasing subject to NSO stipulations.
Protected Resource:	National Trails Management Corridor
Approximate Acres Affected:	481,976

Decision	Stipulation
Stipulation Description:	No surface use or occupancy is allowed within the designated National Trails Management Corridor (1) as mapped on the Lander Field Office GIS database and (2) for the protection of Congressionally Designated Trails and their settings. **Exception:** The Authorized Officer may consider a lease stipulation exception within the National Trails Management Corridor if (1) an action is at least 3 miles from a Congressionally Designated Trail, a significant Congressionally Designated Trail historical or recreational site, or Congressionally Designated Trail-related recreational activities or (2) all components and effects of the action are in compliance with the RMP-designated VRM standard in consultation with appropriate federal agencies. The proposal must be capable of attaining a no adverse-affect determination in consultation with the State Historic Preservation Office. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Modification:** The Authorized Officer may modify the area subject to the stipulation or surface occupancy criteria if it is determined by the BLM, after consultation with the appropriate federal and/or state agency, that a portion of the NSO area does not contribute, as determined by Section 106 of the National Historic Preservation Act, to the Congressionally Designated Trails' nature and purpose or their settings, or if the proposed action can be developed in a way that meets the management objectives for the National Trails Management Corridor. This determination shall be based on field evaluation of the area by a qualified archeologist/historian, landscape architect, and recreation specialist and is subject to confirmation by the BLM. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Waiver:** The Authorized Officer may grant a waiver if it is determined, in consultation with the appropriate federal and/or state agency, that the area is no longer considered to contribute to the Congressionally Designated Trails' nature and purpose or settings, or if the proposed action can be developed in a way that meets the management objectives for the National Trails Management Corridor. This determination shall be based on field evaluation of the area by a qualified archeologist/historian, landscape architect, and recreation specialist and subject to confirmation by the BLM. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.)
Decision: 7059, 7068, 7079, 7095, 7106, 7117, 7126	**Stipulation Type: NSO**
Decision Language:	Multiple; see specific decision number.
Protected Resource:	ACECs

Decision	Stipulation
Approximate Acres Affected:	● Lander Slope (including the Baldwin Creek Unit Wild and Scenic River) (25,065 acres) ● Red Canyon (15,109 acres) ● Whiskey Mountain (8,774 acres) ● Beaver Rim (6,421 acres) ● Green Mountain (21,389 acres) ● South Pass Historical Landscape (124,124 acres) ● Twin Creek (35,064 acres)
Stipulation Description:	No surface use or occupancy is allowed within designated ACECs (1) as mapped on the Lander Field Office GIS database and (2) for purposes of protecting the relevant and important ACEC values. **Exception:** The Authorized Officer may grant an exception if it is determined that the action, as proposed or conditioned, would not adversely impact the relevant and important values of the ACEC. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Modification:** The Authorized Officer may modify the area subject to the stipulation or surface occupancy criteria if it is determined that a portion of the NSO area is not essential to the protection of the ACEC's relevant and important values. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.) **Waiver:** The Authorized Officer may grant a waiver if it is determined that the area is no longer considered to contribute to the ACEC's relevant and important values or if the entire leasehold is no longer managed as an ACEC. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manuals 1624 and 3101.)
ACEC Area of Critical Environmental Concern	RHT&EH Regional Historic Trail and Early Highway
BLM Bureau of Land Management	ROW right-of-way
CSU Controlled Surface Use	RMP Resource Management Plan
DEQ Department of Environmental Quality	RMZ Recreation Management Zone
FR Federal Register	TCP Traditional Cultural Property
GIS Geographic Information System	USFWS U.S. Fish and Wildlife Service
NRCS Natural Resources Conservation Service	VRM Visual Resource Management
NSO No Surface Occupancy	WGFD Wyoming Game and Fish Department

Appendix J. Species Mentioned in the Lander Field Office Resource Management Plan and Environmental Impact Statement

Table J.1. Common and Scientific Names of Plant and Wildlife Species

Common Name	Scientific Name
Plants	
Alder	*Alnus serrulata*
Arrowleaf balsamroot	*Balsamorhiza sagittata*
Aspen	*Populus tremuloides*
Barneby's clover	*Trifolium barnebyi*
Basin big sagebrush	*Artemisia tridentata ssp. tridentata*
Beaver Rim phlox	*Phlox pungens*
Big sagebrush	*Artemisia tridentata* Nutt.
Bitterbrush	*Purshia tridentata*
Black henbane	*Hyoscyamus niger*
Blowout penstemon	*Penstemon haydenii*
Bluebunch wheatgrass	*Pseudoroegneria spicata*
Bluegrass	*Poa annua*
Bottlebrush squirreltail	*Elymus elymoides*
Boxelder	*Acer negundo*
Bud sagebrush	*Picrothamnus desertorum*
Buffalobur	*Solanum rostratum*
Bull thistle	*Cirsium vulgare*
Canada thistle	*Cirsium arvense*
Cedar Rim thistle	*Cirsium aridum*
Cheatgrass	*Bromus tectorum*
Cinquefoil	*Potentilla*
Common burdock	*Arctium minus (Hill) Bernh.*
Common St. Johnswort	*Hypericum perforatum*
Common tansy	*Tanacetum vulgare*
Cottonwood	*Populus spp.*
Curlycup gumweed	*Grindelia squarrosa*
Dalmatian toadflax	*Linaria genistifolia ssp. dalmatica*
Dandelion	*Taraxacum officinale*
Desert yellowhead	*Yermo xanthocephalus*
Diffuse knapweed	*Centaurea diffusa*
Douglas-fir	*Pseudotsuga menziesii*
Dubois milkvetch	*Astragalus gilviflorus var. purpureus*
Dwarf mistletoe	*Arceuthobium spp.*
Dyers woad	*Isatis tinctoria*
Engelmann spruce	*Picea engelmannii*
Field bindweed	*Convolvulus arvensis*
Foxtail barley	*Hordeum jubatum*
Fremont bladderpod	*Lesquerella fremontii*
Gardner's saltbush	*Atriplex gardneri*
Greasewood	*Sarcobatus vermiculatus*
Great Basin wild rye	*Leymus cinereus*
Green needlegrass	*Nassella viridula*
Halogeton	*Halogeton glomeratus*

Common Name	**Scientific Name**
Hoary cress (whitetop)	*Cardaria draba and Cardaria pubescens Desv.*
Houndstongue	*Cynoglossum offinale*
Idaho fescue	*Festuca idahoensis*
Indian ricegrass	*Achnatherum hymenoides*
Lady's bedstraw	*Galium verum*
Larkspur	*Delphinium occidentale*
Leafy spurge	*Euphorbia esula*
Limber pine	*Pinus flexilis*
Lodgepole pine	*Pinus contorta*
Mat muhly	*Muhlenbergia richardsonis*
Meadow pussytoes	*Antennaria arcuata*
Mountain brome	*Bromus marginatus*
Mountain mahogany	*Cercocarpus kunth*
Mountain big sagebrush	*Artemisia tridentata ssp. vaseyana*
Mountain thermopsis	*Thermopis montana*
Musk thistle	*Carduus nutans*
Mustard	*Brassicaceae spp.*
Needle grass	*Achnatherum*
Owl Creek miner's candle	*Cryptantha subcapitata*
Ox-eye daisy	*Leucanthemum vulgare or Chrysanthemum leucanthemum*
Perennial pepperweed (giant whitetop)	*Lepidium latifolium*
Perennial sowthistle	*Sonchus arvensis*
Persistent sepal yellowcress	*Rorippa calycina*
Plains larkspur / Geyer larkspur	*Delphinium geyeri*
Plains prickly pear	*Opuntia polyacantha*
Plumeless thistle	*Carduus acanthoides*
Poplar bud-gall mite	*Eriophes parapopuli*
Porter's sagebrush	*Artemisia porteri*
Prairie junegrass	*Koeleria macrantha*
Puncturevine	*Tribulus terrestris*
Purple loosestrife	*Lythrum salicaria*
Quackgrass	*Agropyron repens*
Rocky Mountain juniper	*Juniperus scopulorum*
Rocky Mountain twinpod	*Physaria saximontana var. saximontana*
Russian knapweed	*Acroptilon repens (synonym = Centaurea repens)*
Russian olive	*Elaeagnus angustifolia*
Russian thistle	*Salsola tragus*
Sagebrush	*Artemisia spp.*
Salt cedar	*Tamarix spp.*
Sandberg bluegrass	*Poa secunda*
Scotch thistle	*Onopordum acanthium*
Showy milkweed	*Asclepias speciosa*
Silver sage	*Salvia argentea*
Skeletonleaf bursage	*Franseria discolor Nutt.*
Snowberry	*Symphoricarpos albus*
Spotted knapweed	*Centaurea maculosa*
Sulfur cinquefoil	*Potentilla recta*
Swainsonpea	*Sphaerophysa salsula*
Thickspike wheatgrass	*Elymus lanceolatus*
Threadleaf sedge	*Carex filifolia*
Utah juniper	*Juniperus osteosperma*
Ute ladies'-tresses	*Spiranthes diluvialis*
Water birch	*Betula occidentalis*

Common Name	Scientific Name
Whitebark pine	*Pinus albicaulis*
Wild licorice	*Glycyrrhiaz lepidota*
Willow	*Salix spp.*
Wyeth lupine	*Lupinus wyethii*
Wyoming big sagebrush	*Artemisia tridentata ssp. wyomingensis*
Yellow toadflax	*Linaria vulgaris*
Fungi	
Blister rust or white pine blister rust	*Cronartium ribicola*
Fish	
Black bullhead	*Ameirus melas*
Black crappie	*Pomoxis nigromaculatus*
Bluegill	*Lepomis macrochirus*
Bonneville cutthroat trout	*Onocorhynchus clarki utah*
Brook trout	*Salvelinus fontinalis*
Brown trout	*Salmo trutta*
Burbot	*Lota lota*
Channel catfish	*Ictalurus punctatus*
Common carp [Carp in text]	*Cyprinus carpio*
Creek chub	*Semotilus atromaculatus*
Cutthroat trout	*Oncorhynchus clarki*
Emerald shiner	*Notropis atherinoides*
Fathead minnow	*Pimephales promelas*
Flathead chub	*Platygobio gracilis*
Golden shiner	*Notemigonus crysoleucas*
Green sunfish (green sunfish - bluegill hybrid)	*Lepomus cyanellus*
Iowa darter	*Etheostoma exile*
Johnny darter	*Etheostoma nigrum*
Lake chub	*Couesius plumbeus*
Lake trout	*Salvelinus namaycush*
Largemouth bass	*Micropterus salmoides*
Longnose dace	*Rhinichthys cataractae*
Longnose sucker	*Catostomus catostomus*
Mottled Sculpin	*Cottus bairdi*
Mountain sucker	*Catostomus platyrhynchus*
Mountain whitefish	*Prosopium williamsoni*
Pallid sturgeon	*Scaphirhynchus albus*
Plains killifish	*Fundulus zebrinus*
Rainbow trout	*Oncorhynchus mykiss*
River carpsucker	*Carpiodes carpio*
Sand shiner	*Notropis stramineus*
Sauger	*Sander canadensis*
Shorthead redhorse	*Moxostoma macrolepidotum*
Snake River cutthroat	*Oncorhynchus clarki spp.*
Splake (brook and lake trout hybrid)	*Salvelinus namaycush X Salvelinus fontinalis*
Spottail shiner	*Notropis hudsonius*
Stonecat	*Noturus flavus*
Walleye	*Sander vitreus*
White crappie	*Pomoxis annularis*
White sucker	*Catostomus commersoni*
Yellow perch	*Perca flavescens*
Yellowstone cutthroat trout	*Oncorhynchus clarki bouvieri*
Wildlife	
American kestrel	*Falco sparverius*

Common Name	**Scientific Name**
Badger	*Taxidea taxus*
Baird’s sparrow	*Ammodramus bairdii*
Bald eagle	*Haliaeetus leucocephalus*
Barn owl	*Tyto alba*
Beaver	*Castor canadensisis*
Bighorn sheep	*Ovis canadensis*
Bison	*Bison bison*
Black bear	*Ursus americanus*
Black-footed ferret	*Mustela nigripes*
Bobcat	*Lynx rufus*
Boreal chorus frog	*Pseudacris maculata*
Boreal owl	*Aegolius funereus*
Boreal toad (Rocky Mountain population)	*Anaxyrus boreas boreas*
Brewer’s sparrow	*Spizella breweri*
Bullsnake	*Pituophis catenifer sayi*
Burrowing owl	*Athene cunicularia*
Canada lynx	*Lynx canadensis*
Chukar partridge	*Alectoris chukar*
Columbia spotted frog	*Rana luteiventris*
Cooper’s hawk	*Accipiter cooperii*
Coot	*Fulica spp.*
Cottontail rabbit	*Sylvilagus spp.*
Coyote	*Canis latrans*
Ducks and geese	*family Anatidae*
Dusky grouse	*Dendragapus obscurus*
Dwarf shrew	*Sorex nanus*
Eastern yellow-bellied racer	*Coluber constrictor flaviventris*
Elk	*Cervus elaphus*
Ferruginous hawk	*Buteo regalis*
Golden eagle	*Aquila chrysaetos*
Gray partridge	*Perdix perdix*
Gray wolf	*Canis lupus*
Great Basin spadefoot toad	*Scaphiopus intermontana*
Great gray owl	*Strix nebulosa*
Great horned owl	*Bubo virginianus*
Greater sage-grouse	*Centrocercus urophasianus*
Greater short-horned lizard	*Phrynosoma (Tapaja) hernandesi*
Grizzly bear	*Ursus arctos horribilis*
Ground squirrel	*Spermophilus sp.*
Jackrabbit	*Lepus*
Loggerhead shrike	*Lanius ludovicianus*
Long-billed curlew	*Numenius americanus*
Long-eared myotis	*Myotis evotis*
Long-eared owl	*Asio otus*
Marten	*Martes sp.*
Merlin	*Falco columbarius*
Mink	*Mustela vison*
Moose	*Alces alces*
Mountain bluebird	*Sialia currucoides*
Mountain lion	*Puma concolor*
Mountain plover	*Charadrius montanus*
Mourning dove	*Zenaida macroura*
Mouse	*Peromyscus spp.*

Common Name	**Scientific Name**
Mule deer	*Odocoileus hermionus*
Muskrat	*Ondata zibethicus*
North American wolverine	*Gulogulo luscus*
Northern goshawk	*Accipiter gentilis*
Northern harrier	*Circus cyaneus*
Northern leopard frog	*Lithobates pipiens*
Northern pygmy owl	*Glaucidium californicum*
Northern sagebrush lizard	*Sceloporus graciosus graciosus*
Northern saw-whet owl	*Aegolius acadicus*
Osprey	*Pandion haliaetus*
Peregrine falcon	*Falco peregrinus*
Pheasant	*Phasianus colchicus*
Prairie rattlesnake	*Crotalus viridis*
Plains spadefoot toad	*Spea bombifrons*
Porcupine	*Hystricomorph hystricidae*
Prairie dogs	*Cynomys spp.*
Prairie falcon	*Falco mexicanus*
Pronghorn	*Antilocapra americana*
Pygmy rabbit	*Brachylagus idahoensis*
Raccoon	*Procyon lotor*
Rail	*family Rallidae*
Rat	*Rattus spp.*
Red fox	*Vulpes vulpes*
Red squirrel	*Tamiasciurus hudsonicus*
Red-tailed hawk	*Buteo jamaicensis*
Rough-legged hawk	*Buteo lagopus*
Ruffed grouse	*Bonasa umbellus*
Sage sparrow	*Amphispiza belli*
Sage thrasher	*Oreoscoptes montanus*
Sandhill crane	*Grus canadensis*
Sharp-shinned hawk	*Accipiter striatus*
Short-eared owl	*Asio flammeus*
Shrew	*family Soricidae*
Skunk	*family Mephitidae*
Snipe	*Gallinago sp.*
Snowshoe hare	*Lepus americanus*
Spotted bat	*Euderma maculatum*
Swainson’s hawk	*Buteo swainsoni*
Swift fox	*Vulpes velox*
Tiger salamander	*Ambystoma mavortium*
Townsend’s big-eared bat	*Corynorhinus townsendii*
Trumpeter swan	*Cygnus buccinator*
Turkey vulture	*Cathartes aura*
Vesper sparrow	*Pooecetes gramineus*
Vole	*Microtus sp.*
Wandering gartersnake	*Thamnophis elegans vagrans*
Weasel	*Mustela spp.*
Western screech owl	*Megascops kennicottii*
White-faced ibis	*Plegadis chihi*
White-tailed deer	*Odocoileus virginianus*
White-tailed prairie dog	*Cynomys leucurus*
Yellow-billed cuckoo	*Coccyzum americanus*
Invertebrates	

Common Name	**Scientific Name**
Army cutworm	*Euxos auxilliarius*
Aphthona flea beetle	*Aphthona nigriscutis*
Beet leafhopper	*Circulifer tenellus*
Didymo	*Didymosphenia geminata*
Grasshopper	*suborder Caelifera; order Orthoptera*
Mormon cricket	*Anabrus simplex*
Mosquito	*Culicidae spp.*
Mosquito	*Culex tarsalis*
Mountain pine beetle	*Dendroctonus ponderosae*
New Zealand mud snail	*Potamopyrgus antipodarum*
Poplar bud-gall mite	*Eriophes parapopuli*
Quagga mussel	*Dreissena rostriformis*
Zebra mussel	*Dreissena polymorpha*

Appendix K. Lands Identified for Disposal

In Table K.1, "Lands Identified for Disposal" (p. 310), the Lander Field Office Resource Management Plan (RMP) specifically identifies areas available for consideration for disposal by employing the "isolated, difficult or expensive to manage, or needed-for community expansion" disposal criteria in the Federal Land Policy and Management Act (FLPMA). The areas below were identified during development of the RMP as complying with FLPMA disposal criteria. Inclusion in Table K.1, "Lands Identified for Disposal" (p. 310), does not constitute a decision that the land will be disposed. Before taking any disposal action, consideration will be given to each individual tract and will include public involvement. As stated elsewhere in the RMP, the preferred method of disposal or acquisition of lands is through exchanges. Proposals for disposal of lands not identified in Table K.1, "Lands Identified for Disposal" (p. 310), will be considered if they are consistent with the objectives of the Approved RMP and could require a land use plan amendment.

FLPMA provides for retention of the public lands in federal ownership and management by the Bureau of Land Management (BLM) for multiple uses. FLPMA and other federal laws, executive orders, and policies suggest criteria to use when categorizing public lands for retention or disposal, and for identifying acquisition priorities. Disposal by sale, exchange, airport grant, or Recreation and Public Purposes patent remains an option if such an action would serve an important objective and have a public benefit.

Site-specific environmental review and documentation in conformance with the National Environmental Policy Act, including completion of categorical exclusions and plan conformance determinations where appropriate, will be accomplished for each proposed land program action. Interdisciplinary impact analysis will be tiered within the framework of this and other applicable environmental documents. Many of the foregoing provisions of this appendix are based on current policy. Future shifts in policy and national priorities could result in modifications of these provisions and changes in addressing priority lands actions. Land tenure adjustments must serve the public interest.

The following are suggested criteria to consider in land tenure adjustment proposals, but the list is not considered all inclusive. These criteria are meant to guide and streamline consideration of land tenure adjustment proposals. Acquisition of lands will be considered, if in compliance with the RMP, to facilitate various resource management objectives and to acquire lands with high resource values including, but not limited to:

- Important, crucial, or critical habitat for fish, wildlife, and plants, particularly if located in greater sage-grouse Core Area or in an Area of Critical Environmental Concern with relevant and important wildlife values
- Riparian-wetland areas, and designated floodplains
- Parcels that provide access to blocks of public land
- Lands with or adjacent to special designation or management emphasis
- Significant cultural resources
- Recreation opportunities and benefits
- Visual Resource Management Class I and Class II areas

The preferred method for acquisition will be through exchange. Acquisitions, including easements, can be completed through exchange, Land and Water Conservation Fund purchases, or donations. Acquisitions of private lands will be pursued only with willing landowners.

Table K.1. Lands Identified for Disposal

Parcel No.	Legal Description
1	T. 43 N., R. 108 W., Sec. 27: SW¼NW¼, NW¼SW¼ 80 ac.
5	T. 42 N., R. 108 W., Sec. 21: S½NE¼ 80 ac.
7	T. 43 N., R. 108 W., Sec. 35: NE¼SW¼ 40 ac.
8	T. 42 N., R. 108 W., Sec. 2: E2SE¼ 80 ac.
11	T. 42 N., R. 107 W., Sec. 18: S½NW¼, SW¼ 240 ac.
14	T. 42 N., R. 107 W., Sec. 17: S½SW¼ 20: NW¼, NE¼SW¼ 280 ac.
20	T. 41 N., R. 107 W., Sec. 13: N½NW¼, SW¼NW¼ 24: NE¼NE¼ 160 ac.
21	T. 41 N., R. 106 W., Sec. 7: SW¼ SW¼ 18: N½NW¼ T. 41 N., R. 107 W., Sec. 13: SE¼NE¼, E ½SE¼ 160 ac.
24	T. 43 N., R. 105 W., Sec. 32: W½NW¼ 80 ac.

Parcel No.	Legal Description
25	T. 43 N., R. 105 W., Sec. 33: E½E½, W½NE¼ 34: W½W½ 400 ac.
26	T. 42 N., R. 105 W., Sec. 4: Lots 3, 4 (N½NW¼) S½NW¼ Sec. 5: SE¼NE¼ 200.7 ac.
27	T. 42 N., R. 105 W., Sec. 3: S½SE¼ 10: NE¼, SE¼NW¼ 280 ac.
28	T. 42 N., R. 105 W., Sec. 9: SW¼SE¼ 40 ac.
31	T. 41 N., R. 105 W., Sec. 12: Lot 2(NE¼SE¼) 24 ac.
34	T. 41 N., R. 105 W., Sec. 8: NW¼NW¼, NW¼SE¼ 80 ac.
38	T. 40 N., R. 106 W., Sec. 22: SE¼NE¼, S½ 360 ac.
40	T. 33 N., R. 101 W., Sec. 2: NE ¼SW¼ 40 ac.
44	T. 33 N., R. 100 W., Sec. 7: Lots 3, 4 SE¼SW¼, SW¼SE¼ 161 ac.
45	T. 33 N., R. 100 W., Sec. 8: SW¼SE¼, 40 ac.

Parcel No.	Legal Description
46	T. 33 N., R. 100 W., Sec. 17: NW¼NW¼, 40 ac.
48	T. 33 N., R. 100 W., Sec. 28: E½SE¼ 80 ac.
53	T. 33 N., R. 99 W., Sec. 1: SE¼SW¼ Sec. 11: E½NE¼, NE¼SE¼ Sec. 12: W½NW¼, NW¼SW¼ 280 ac.
54	T. 33 N., R. 99 W., Sec. 25: W½SW¼, SE¼SW¼ Sec. 26: SE¼NE¼ 160 ac.
56	T. 32 N., R. 99 W., Sec. 17: SE¼NW¼ 40 ac.
59	T. 32 N., R. 100 W., Sec. 27: SW¼NW¼, NW¼SW¼ Sec. 28: S½NE¼, NE¼SE¼ Sec 33: NW¼NE¼ 320 ac.
62	T. 32 N., R. 99 W., Sec. 30: SE¼NE¼ 40 ac.
63	T. 32N.,R 99Wl, Sec. 28: W½W½ 29: SW¼SW¼ 280 ac.
64	T. 32 N., R. 99 W., Sec. 32: S½NE¼, N½SE¼, SE¼SE¼ Sec. 33: SW¼SW¼ 200 ac.

Parcel No.	Legal Description
66	T. 31 N., R. 98 W., Sec. 5: Lot 4, SE¼NW¼ 80.86 ac.
67	T. 31 N., R. 98 W., Sec. 21: SE¼NE¼ 40 ac.
68	T. 30 N., R. 98 W., Sec. 7: NE¼SE¼ 18: SE¼NE¼, NE¼NW¼ 120 ac.
69	T. 30 N., R. 98 W., Sec. 12: S½NE¼, SE¼NW¼ N½N½ 280 ac.
71	T. 29 N., R. 100 W., Sec. 25: NE¼ 160 ac.
72	T. 29 N., R. 98 W., Sec. 7: Lot 5 37.57 ac.
73	T. 29 N., R. 98 W., Sec. 10: SE¼SW¼, SW¼SE¼ 15: NE¼NE¼ 120 ac.
74	T. 29 N., R. 98 W., Sec. 11: SW¼NE¼, S½NW¼ 120 ac.
75	T. 29 N., R. 98 W., Sec. 1: SW¼SW¼ 12: W½NW¼, NW¼SW¼ 160 Ac.
79	T. 31 N., R. 97 W., Sec. 12: SE¼SE¼ 40 ac.

Parcel No.	Legal Description
80	T. 31 N., R. 96 W., Sec. 18: SW¼SE¼ 19: N½NE¼, SW¼NE¼ 160 ac.
81	T. 31 N., R. 96 W., Sec. 20: SE¼SW¼, S½SE¼ 29: NE¼NW¼, N½NE¼ 28: W½NW¼ 320 ac.
82	T. 31 N., R. 96 W., Sec. 21: SE¼SE¼ 22: SW¼SW¼ 80 ac.
83	T. 31 N., R. 96 W., Sec. 27: SW¼SW¼ 34: NW¼NE¼, NE¼NW¼ 120 ac.
84	T. 31 N., R. 96 W., Sec. 33: E½SE¼ 80 ac.
85	T. 31 N., R. 96 W., Sec. 35: N½SW¼ 80 ac.
86	T. 40 N., R. 94 W., Sec. 11: NE¼NW¼ 40 ac.
87	T. 40 N., R. 94 W., Sec. 12: SE¼NE¼, NE¼SE¼ T. 39 N., R. 93 W., Sec. 7: SW¼NW¼ 120 ac.
88	T. 40 N., R. 93 W., Sec. 5: SE¼NE¼ 40 ac.

Parcel No.	Legal Description
89	T. 40 N., R. 93 W., Sec. 3: SW¼SW¼ 40 ac.
90	T. 40 N., R. 92 W., Sec. 6: Lot 5 T. 40 N., R. 93 W., Sec. 1: NW¼SE¼, NE¼SW¼ 128.15 ac.
91	T. 40 N., R. 93 W., Sec. 14: SW¼NW¼ 15: NE¼SE¼ 80 ac.
92	T. 40 N., R. 91 W., Sec. 19: NW¼SE¼ 20: NW¼SW¼ 80 ac.
93	T. 40 N., R. 92 W., Sec. 11: S½SE¼ 80 ac.
96	T. 40 N., R. 91 W., Sec. 5: NE¼NW¼ (Lot 3) 45.83 ac.
97	T. 40 N., R. 91 W., Sec. 8: N½NE¼, SW¼NE¼ 120 ac.
98	T. 40 N., R. 91 W., Sec. 9: NE¼NW¼ 40 ac.
99	T. 40 N., R. 91 W., Sec. 10: SW¼NW¼ 40 ac.
101	T. 40 N., R. 91 W., Sec. 3: Lots 1, 2 91.88 ac.

Parcel No.	Legal Description
105	T. 40 N., R. 89 W., Sec. 9; N½NE¼ 80 ac.
106	T. 39 N., R. 91 W., Sec. 24: NW¼SE¼ 40 ac.
108	T. 39 N., R. 89 W., Sec. 8: E½NW¼ 80 ac.
109	T. 39 N., R. 89 W., Sec. 8: NE¼SE¼ 40 ac.
110	T. 39 N., R. 89 W., Sec. 8: SW¼SW¼ 17: NW¼NW¼ 18: NE¼NE¼ 120 ac.
112	T. 38 N., R. 94 W., Sec. 11: SW¼SW¼ 14: W½NW¼ 120 ac.
118	T. 37 N., R. 89 W., Sec. 28: NW¼NW¼ 29: N½N½, SW¼NE¼, S½NW¼ 320 ac.
119	T. 35 N., R. 92 W., Sec. 4: Lot 1 41.31 ac.
121	T. 35 N., R. 90 W., Sec. 10: SE¼SW¼ 40 ac.

Parcel No.	Legal Description
122	T. 34 N., R. 94 W., Sec. 31: NE¼NE¼ 32: NW¼NW¼ 80 ac.
124	T. 31 N., R. 92 W., Sec. 33: S½NW¼ 80 ac.
127	T. 30 N., R. 93 W., Sec. 26: SW¼SW¼ 34: NE¼NE¼ 35: NW¼NW¼ 120 ac.
133	T. 29 N., R. 92 W., Sec. 23: NE¼SE¼ 24: NW¼SW¼ 80 ac.
137	T. 30 N., R. 89 W., Sec. 15: S½NW¼, SW¼ 240 ac.
138	T. 30 N., R. 89 W., Sec. 9: SE¼ 10: NW¼SW¼ 200 ac.
139	T. 32 N., R. 88 W., Sec. 3: NW¼SW¼ 40 ac.
140	T. 32 N., R. 88 W., Sec. 15: W½SE¼ 22: NW¼NE¼ 120 ac.
141	T. 32 N., R. 87 W., Sec. 3: Lot 4 41.58 ac.

Parcel No.	Legal Description
143	T. 32 N., R. 87 W., Sec. 15: NW¼NE¼ 40 ac.
144	T. 32 N., R. 87 W., Sec. 31: NW¼SE¼ 40 ac.
145	T. 31 N., R. 87 W., Sec. 5: SE¼NE¼, NE¼SE¼ 80 ac.
146	T. 31 N., R. 87 W., Sec. 28: W½NE¼ 80 ac.
147	T. 32 N., R. 85 W., Sec. 13: NE¼NE¼ 40 ac.
151	T. 30 N., R. 85 W., Sec. 28: SW¼SW¼ 40 ac.
160	T. 28 N., R. 89 W., Sec. 24: SW¼NW¼ 40 ac.
167	T. 33 N., R. 93 W., Sec. 33: E½E½ 34: W½NW¼ 240 ac.

Parcel No.	Legal Description
168	T. 29 N., R. 92 W., Sec. 1: NE ¼, NW ¼ NW ¼, SW ¼, NE ¼ SE ¼, S ½ SE ¼ 2: NE ¼ SW ¼, S1/2 SW ¼, SE ¼ 3: SE ¼ SE ¼ 11: NE ¼, E ½ NW ¼, SW ¼, SE ¼ 12: All 13: N ½ 14: NE ¼, NE ¼ NW ¼ T. 29 N., R. 91 W., Sec. 6: NW ¼, SW ¼, NE ¼ SEC ¼, S ½ SE ¼ 7: SW ¼, SW ¼ SE ¼ 18: N ½ NW ¼ 3,240 ac.
169	T. 33 N., R. 90 W., Sec. 9: Lots 1 and 2, and NE¼SE¼ 10: Lots 1-3, inclusive, NW¼, W½SE¼, and the unpatented portion of Mineral Survey No. 644 lying within Sec. 10 15: Lots 1-8, inclusive, S½NE¼, NW¼NE¼, N½SE¼, SE¼SE¼, and the unpatented portions of Mineral Survey Nos. 587 and 644 lying within Sec. 15 21: E½NE¼, and NE¼SE¼ 22: Lots 1-4, inclusive, NE¼NE¼, and the unpatented portions of Mineral Survey Nos. 582, 584, and 587 lying within the N½, NW¼SW¼, and N½SE¼ 1,091 ac.
170	T. 32 N., R. 85 W., Sec. 15: NW ¼ NW ¼ NW ¼ SE ¼ 2.5 ac.
171	T. 32 N., R. 85 W., Sec. 15: W½NW¼NW¼NW¼SE ¼ 1.25 ac.

Parcel No.	Legal Description
175	T. 27 N., R. 90 W., Sec. 34: S½N½, S½, SESW 39.5 ac.
176	T. 28 N., R. 99 W., Sec. 19: N ½NE¼, NE¼NW¼ 123.6 ac.
177	T. 28 N., R. 100 W., Sec. 23: SE¼SE¼ 24: S½NE¼, NW¼SW¼, S½SE¼ 25: NE¼NW¼, SW¼NW¼ 325.5 ac.
178	T. 29 N., R. 101 W., Sec. 13: SWSE 39.1 ac.
179	T. 29 N., R. 92 W., Sec. 11: W½NW 80.2 ac.
180	T. 29 N., R. 96 W., Sec. 7: SWNW, NWSW 100.4 ac.

Parcel No.	Legal Description
181	T. 29 N., R. 97 W., Sec.1: SWSW 2: SE 3: N½N½, SWNE, SWNW 4: N½, SWSW, N½SE 5: N½NE, W½SW, SESW, SWSE 6: W½NW, S½ 7: SENE, N½NW, SWNW, SE 8: All 9: N½, N½S½, SWSW 10: N½ 11: N½, NESE 12: All 17: NE, W½, NWSE 18: All 5,549.8 ac.
182	T. 29 N., R. 98 W., Sec. 12: E½NE, NESE; 13: All 14: SENE, E½SE 888.8 ac.

Parcel No.	Legal Description
183	T. 30 N., R. 97 W., Sec. 21: E½SE 22: SW, W½SE, SESE 26: SWNW, W½SW 27: All Except SWSW 28: N½NE, SENE, SWNW, W½SW, SESW, SWSE 29: S½N½, NWNW, S½ 30: NENE, SW¼, S½SE 31: All 32: All 33: NWNE, S½NE, NW, S½ 34: All Except NWNW 35: W½W½, SENW, E½SW, W½SE 5,076.6 ac.
184	T. 33 N., R. 89 W., Sec. 9: SE 21: NE 320.2 ac.
185	T. 33 N., R. 98 W., Sec. 8: NENE; 17: W½SW 18: E½E½, SWSE 19: All Except NWNW 20: W½ 1,231.1 ac.
186	T. 33 N., R. 99 W., Sec. 24: SENE 25: NWSW 26: SENE 42.8 ac.

Parcel No.	Legal Description
187	T. 33 N., R. 100 W., Sec. 5: NWNE, NW, N½SW 276.8 ac.
188	T. 34 N., R. 90 W., Sec. 22: N½N½, S½NE, SENW, S½SW, NESE 401.4 ac.
190	T. 34 N., R. 100 W., Sec. 32: SWNW, W½SW, SESW, SWSE 196.6 ac.
191	T. 36 N., R. 91 W., Sec. 24: All 25: All 35: All 1,937.5 ac.
192	T. 36 N., R. 92 W., Sec. 22: S½S½ 23: S½S½ 322.5 ac.
193	T. 28 N., R. 92 W., Sec. 28: W½NW, NWSW 29: NE 274.2 ac.
194	T. 33 N., R. 90 W., Sec. 29: S½SW, SE, SWSE (This is primarily in lots) 32: All 33: W½W½, E½SW, SENW, W½SE, SWNE T. 32 N., R. 90 W., Sec. 6: Lots 1-3 5: Lots 1-4 1435 ac.

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Appendix L. Wild Horse Management in the Lander Planning Area

The Bureau of Land Management (BLM) monitors wild horse populations to comply with population management objectives set in the land use plan. The BLM has been conducting ongoing monitoring of wild horses and their habitat in Herd Management Areas (HMA) for many years. The monitoring program, although not exclusive to the wild horse program, includes collection and monitoring of the following types of information carried out by BLM range, wildlife, and wild horse staff in the planning area:

- Precipitation data
- Rangeland trends (uplands and riparian)
- Forage utilization data
- Permitted use by livestock
- Wildlife actual use and forage requirements
- Wild horse population data, including but not limited to –
- ○ Population counts
- ○ Reproductive rates
- ○ Age/sex structure
- ○ Observation sightings
- ○ Determining areas of highest horse use, or concentration areas

If an evaluation of monitoring data were to indicate that wild horse management objectives in the land use plan were not being met, population adjustments in land use plans and Herd Management Area Plans could be necessary. Population adjustments would be analyzed prior to initiating management actions in applicable Herd Management Area Plans and Resource Management Plans (RMPs). Monitoring and adjusting the appropriate management level, as necessary, would ensure a thriving, natural ecological balance is maintained.

More information on specific management direction used in managing wild horse populations in the planning area can be found in the *Wild Horses and Burros Management Handbook (H–4700-1)*. This handbook is an assemblage of all relevant policy and technical guidance that must be considered in developing and implementing Wild Horse Management Plans and actions.

Establishment and Modification of Herd Management Areas and Appropriate Management Levels

The current appropriate management levels were established in 1993 and 1994 from a process that included five years of focused, intensive monitoring of wild horse herd areas, use areas, and grazing allotments. Evaluation of data, public input, and environmental analysis were utilized to establish the appropriate management level for each herd. Appropriate management levels were established for the Lander Field Office by two National Environmental Policy Act analyses. In 1993, Environmental Assessment (EA) # WY-036-EA3-010 identified five HMAs: Conant Creek, Muskrat Basin, Rock Creek Mountain, Dishpan Butte, and Green Mountain. An EA developed by the Rawlins Field Office, EA# WY-037-EA4-122, identified two HMAs and appropriate management levels for Crooks Mountain and Antelope Hills.

Appropriate Management Level/Population Expression in the Planning Area

The existing Lander Field Office appropriate management levels are expressed as the number of adults and yearlings, including unweaned foals of the year. At the time these appropriate management levels were developed, traditional inventory periods were in late winter or very early in the year, typically in February or March.

This period included foals from the previous year that had perished or survived to approach their first birthday, and the foals of the year had not yet been born. Therefore, the number counted represented what the adult population would be for the following year, not considering subsequent mortality.

Lately, there has been a shift in inventory times to favor the months of July and August. When a herd is counted at this time, most of the foals of the year have been born and many are 2 months of age or older. Therefore, an inventory of the same herd in the same calendar year will yield a higher number, barring some unusual late-winter event resulting in unusually high mortality, than would have occurred earlier in the year.

At one time a “Minimum Viable Population” was a widely accepted term among scientists and behaviorists. The concept can best be described in terms of genetic material and its diversity rather than as a specific number of horses. Blood typing was necessary to determine the genetic characteristics of a given population. The identification of a specific population level for an area that represents a Minimum Viable Population is also influenced by the amount and frequency of interaction with other populations. It is generally agreed that 50 competent breeding animals will constitute a Minimum Viable Population under most circumstances.

Inventory practices are under review by the National Program Office. Inventory practices might be standardized, and any such standardization could include a uniform method of counting a population. Increased interest in the genetic character of a particular herd has caused some differing views on the expression of population sizes and objectives.

Geneticists usually define a population in terms of the effective population, which consists of the number of competent breeding-age animals. Therefore, colts of the year, yearlings, a portion of the 2-year olds, and the very old would not be included as part of the effective population count. The appropriate management level necessary to maintain an effective breeding population of 100 would be approximately 165 adult animals, not including unweaned foals. The exact number would vary depending on the age and sex distribution of the particular herd.

Implications of Wild Horse Genetic Research

Wild horses managed on public lands have a variety of histories and originate from a variety of backgrounds. Advances in genetic research have enabled the BLM to identify the specific genetic stock from which a wild horse population originates, thereby assisting in identifying the history of a population. The genetic roots of most of the horses are predominantly American, and some have beginnings as recent as the period following World War II when horses that had been used by the U.S. Army Calvary were released on public lands. Occasionally, populations have been encountered whose genetic roots can be traced to the Spanish exploration period through the identification of genotypes associated with the New World Iberian (Spanish Colonial) breeds. Populations with this distinctive genotype provide a genetic resource that the majority of wild horses on public lands do not provide. The wild horses in the Lander Field Office’s Antelope Hills HMA are such a population.

In 2001, blood samples from wild horses taken from the Cyclone Rim area in the Antelope Hills HMA were provided to Dr. E. Gus Cothran of the Equine Parentage Testing and Research Laboratory at the University of Kentucky. Results from the genetic analysis of these samples identified a clear contribution from New World Iberian breeds. The highest average genetic association of the blood samples provided were the Spanish Colonial breeds. The next highest average genetic association was with North American Gaited breeds, most likely from the routine escape of domestic saddle stock from the surrounding areas. A report of the results of this genetic analysis is available at the Lander Field Office.

As genetic testing continues with the wild horse populations throughout the Red Desert meta-population, the necessity of maintaining the population of wild horses in the Antelope Hills HMA in genetic isolation could vary. If populations adjacent to the Antelope Hills HMA share the prevalence of New World Iberian genomes, inter-mingling these populations would be beneficial to maintain the genetic resource; therefore, isolating and maintaining an internally viable population in the Antelope Hills HMA would not be required. However, if the New World Iberian genes are prevalent only in Antelope Hills, further intermingling could cause this genetic resource to disappear. Continued monitoring and research could result in adjustments to management decisions for the Antelope Hills HMA. Adjustments would be implemented following appropriate analysis and maintenance of management documents.

Wild Horse Management History in the State Of Wyoming and the Planning Area

In 1971, in response to the passage of the Wild Free-Roaming Horses and Burros Act, the Wyoming BLM identified the existing wild horse habitats and populations in the state that would likely be subject to the provisions of the act. These identifications were made using the best information and understanding available at the time. The result was 30 areas in the State of Wyoming with populations totaling 4,411 horses. Of those, 1,049 were estimated to be privately owned horses that would be claimed and removed from the range under the provisions of the act. Those 30 areas comprised a total of 6,557,160 acres of public lands, 389,112 acres of land owned by the State of Wyoming, and 2,479,096 acres of privately owned lands. The 30 areas varied greatly in size and land ownership.

As soon as the act passed, a number of activities that had served to limit the growth in horse numbers and the expansion of their ranges ceased. Horse populations in Wyoming began to grow.

Following passage of the act, BLM personnel began to accumulate additional information about the horses and their habitats. Area boundaries were refined as more was learned about the seasonal needs and habits of horses. By 1974, the list of 30 areas had increased to 40 areas, comprising a total of 6,820,749 acres of public lands, 406,103 acres of land owned by the State of Wyoming, and 2,355,852 acres of privately owned lands. As before, the 40 areas varied greatly in size and land ownership.

The period of 1976 to 1984 saw a great deal of activity in land use planning. For Wyoming, this can be called the Management Framework Plan Era. During this period, the 40 areas previously identified were combined into 24 areas. The Management Framework Plan process resulted in identifying 14 of those 24 areas that, in one way or another, failed to meet suitability requirements for maintaining a long-term healthy population of horses in accordance with the intent of the Act. One of the two most important criteria was that the area contained substantial amounts of private land. The other was that the horse population was too small to continue to thrive when isolated from customary sources of new genetic stock. The remaining 10 areas were then designated as HMAs. The HMAs comprised 3,322,776 public acres, 152,551 acres of land owned by the State of Wyoming, and 861,022 acres of privately owned land. This process also identified population objectives for these herds, totaling 2,673 horses.

With respect to horses in Wyoming, this has resulted in the 16 HMAs currently recognized in the state. These 16 areas comprise 3,664,002 acres of public land, 154,737 acres of land owned by the State of Wyoming, and 846,243 acres of privately owned lands. The 16 areas still vary in size and land ownership, although not to the extent that they once did. Particularly worthy of note is the substantial amount of private land now included in designated HMAs. Much of the private acreage consists of land owned or controlled by the Rock Springs Grazing Association of southwestern Wyoming. It has made its lands available to an agreed-upon number of wild horses since 1979. Without access to those lands, approximately 1.5 million acres of adjoining and commingled public lands would be unavailable for inclusion in HMAs. This would, in effect, eliminate one-third of the free-roaming horses in Wyoming. The current, combined population objective (appropriate management level) for wild, free-roaming horses in Wyoming is 3,263, or 18 percent more than it was in 1980. Without the access to the private lands, the combined appropriate management level would be only 2,038.

If an effective breeding population of 100 horses is necessary to maintain a genetically viable herd of wild horses, 9 of the 16 HMAs in Wyoming do not have appropriate management levels that would indicate genetically stable long-term populations. However, wild horse herds in these HMAs are usually part of a larger meta-population comprising adjacent HMAs through migration and animals exchanging. The meta-population is the entire gene pool available to a specific herd.

When originally identified and reviewed through planning, HMA boundaries were designated to reflect common herd location, as well as to simplify administration and management of wild horses. As a result, several HMAs could be designated adjacent to one another in different BLM field office planning areas, or simply separated by geographic features such as watersheds. The individual populations in each HMA might be separated for most of the year, but both could share the same winter range. Sharing resources allows for regular interaction between the two populations. Interaction allows for horses from each herd to be recruited by and assimilated into the other. Therefore, although the appropriate management level of the individual HMAs would appear to be genetically deficient, each population is periodically infused with new genetic material and the genetic diversity of both herds is enhanced. In any given year, only a very few bands from each herd might actually exchange members. However, over time, the normal behaviors of each herd cause the mixing to become widespread.

From the standpoint of genetic viability, the required level of exchange of animals and the related introduction of new genetic material is not high. In small populations of less than 150 animals, the introduction of 1 or 2 competent breeding animals per generation (i.e., approximately 10 years) will ensure the maintenance of the genetic resource. Table L.1, “Wild Horse Regional Meta-populations Associated with the Planning Area” (p. 329), identifies the wild horse HMAs in the planning area, and the meta-populations in which the horses of the HMAs interact.

Table L.1. Wild Horse Regional Meta-populations Associated with the Planning Area

HMAs in the Planning Area		Meta-population		HMA(s) in the Meta-population	Type of Interaction	Points of Contact
Name	Appropriate Management Level	Name	Appropriate Management Level			
Antelope Hills[1]	60-82	Red Desert includes Divide Basin	895-1,324	Stewart Creek Lost Creek Antelope Hills Divide Basin Crooks Mountain	Male migration, female exchange	Hay Reservoir Bare Ring Hadsell Osborne Draw
Green Mountain[1]	170-300	Red Desert includes Divide Basin	895-1324	Stewart Creek Lost Creek Antelope Hills Divide Basin Crooks Mountain	Male migration, female exchange	Hay Reservoir Bare Ring Hadsell Osborne Draw
Crooks Mountain[1]	65-85	Red Desert includes Divide Basin	895-1,324	Stewart Creek Lost Creek Antelope Hills Divide Basin Green Mountain	Male migration, female exchange	Hay Reservoir Bare Ring Hadsell Osborne Draw
Conant Creek[2]	60-100	North Lander	320-535	Dishpan Butte Muskrat Open Rock Creek Mountain	Male migration, female exchange	Beaver Rim Lower Conant Creek Upper Conant Creek
Dishpan Butte[2]	50-100	North Lander	320-535	Muskrat Open Rock Creek Mountain Conant Creek	Male migration, female exchange	East Fork of Long Creek Beaver Rim
Muskrat Basin[2]	160-250	North Lander	320-535	Rock Creek Mountain Conant Creek Dishpan Butte	Male migration, female exchange	Beaver Rim Lower Conant Creek Upper Conant Creek
Rock Creek Mountain[2]	50-85	North Lander	320-535	Muskrat Basin Conant Creek Dishpan Butte	Male migration, female exchange	Beaver Rim Above and Below Conant Creek Drainage

[1] Portions of the Antelope Hills, Crooks Mountain, Green Mountain, and Lost Creek HMA boundaries have no fences. Therefore, horses are free to migrate and exchange. Horses in the Stewart Creek and Divide Basin HMAs are fenced off from neighboring HMAs and must negotiate a fence in order to mix.

[2] Horses in the North Lander Complex Meta-population occasionally mix. These animals must negotiate fences in order to exchange with one another.

HMA Herd Management Area

The following trends have emerged in Wyoming since the passage of the Wild Free-Roaming Horses and Burros Act:

1. The average herd size has increased from 147 to 197.
2. The area of public land available for use by horses has increased slightly since 1980.
3. The area of private land occupied has decreased from 2.5 million to 846,243 acres.

4. Of the 16 herds, 14 are part of meta-populations greater than 300.

These same trends are representative of the changes that have occurred in the planning area since the passage of the act. In 1971, an estimated 435 horses subject to management under the act occupied 2,116,095 acres in six areas. Today, an estimated 1,540 horses subject to management under the act occupy approximately 929,000 acres in three areas.

It should be noted that the BLM has routinely removed excess and stray horses from the range since 1978. During that period, more than 27,000 horses have been removed from Wyoming rangelands and placed through the BLM's Adopt-a-Horse-or-Burro program. Nonetheless, the population is still in excess of 4,000 animals, an important indicator that the cornerstone principle of the Wild Free-Roaming Horses and Burros Act, a thriving natural ecological balance, is not imperiled by BLM management of the horses.

Population Management Actions in the Planning Area

Population management actions in the planning area take place as part of a state and national undertaking to allocate scarce resources, and equally scarce space, for the removal of horses from public rangelands. This is necessary so that effective planning and scheduling can occur BLM-wide. No single office controls the fiscal and logistical resources necessary to affect the desired management of horses in its jurisdiction. Instead, each office is part of the BLM-wide wild horse management program. A key part of this program is the identification of a gather cycle for a state, which can result in gathers taking place in less than ideal conditions in a particular HMA. Once established, the gather cycle needs to be followed as closely as possible.

Appropriate management levels were established to allow for a range of fluctuation in the population, while still meeting the criteria for a valid appropriate management level. In evaluating the appropriate management level, a lower limit was identified and then examined to ensure that the particular herd will remain genetically viable if periodically reduced to that level. This is a crucial consideration in many of the smaller herds in the state. Concurrently, the upper limit is evaluated to determine that, under normal climatic conditions, resource damage or other substantial conflicts would not be likely to occur if the population were allowed to increase to this level cyclically. The appropriate management level will equate to the average population level during a management cycle. Analysis of various gather cycles (occurring outside the scope of this RMP) is occurring as part of the statewide wild horse management strategy. Three- and 4-year gather cycles for the state are being evaluated and compared. Cycles longer than four years are also being evaluated as part of a management scheme that would employ fertility control to limit population increases.

When a gather cycle is chosen for implementation in the state, part of the evaluation leading to the choice will be the ability of the Wyoming BLM to remain in substantial conformance with the consent decree of August 28, 2003, and all other relevant law and policy. The upper and lower limits would be reevaluated and adjusted to ensure maintenance of a thriving ecological balance. Because the appropriate management levels were evaluated considering the potential for adverse effects from a 4-year gather cycle and the associated level of population fluctuation, a shorter cycle and lower average population levels would still serve the purposes of the appropriate management level determination process.

Fertility control has become a widely used tool for restraining reproduction. Currently, the most widely used method is the Porcine Zona Pellucida vaccination. Most herds for which the BLM implements Porcine Zona Pellucida vaccination are administered a 22-month controlled release formula in conjunction with a gather. Some analysis indicates that this 22-month formula provides infertility at 94 percent for year one, 82 percent for year two, and 68 percent for year three. Fertility returns to normal on the fourth year. The BLM issued an instruction memorandum in March of 2009 to direct and guide the implementation of fertility control in the field. It is the policy of BLM to apply fertility control as a component of all gathers unless there is a compelling management reason not to do so. For the Lander Field Office, all HMAs have been fertility treated using the Porcine Zona Pellucida-22 fertility control vaccine. The North Lander Complex was treated for the first time in July 2009. Herds in three of the five HMAs in the Red Desert Complex (three managed by Lander and two by Rawlins) were treated in 2006, 2009, and 2011.

Inventory Practices in the Planning Area

Inventory practices in the planning area have developed over time. At present, all inventories in the planning area are conducted using a helicopter-type aircraft. Typically, east-west transects at 1 to 1 ½ mile intervals are employed. Flight height is approximately 500 feet above ground level and airspeed is approximately 80 miles per hour. These practices have been developed to minimize stress to horses and other animals and to comply with BLM aircraft safety guidelines. Some inventories have been completed using fixed-wing aircraft as part of a research project involving the U.S. Geological Survey Biological Resources Discipline from Fort Collins, Colorado. These inventories employ two observers, including one representing the Wyoming Department of Agriculture. This approach yields an actual, independent double count of half of the area, and a constructed double count of the other half. These results are then analyzed statistically and evaluated. Other inventories typically employ a single or double observer using a direct count method.

Animal Health

Animal health issues are considered at two levels: Horses removed from the range and maintained in BLM facilities, and horses remaining on the range. Both levels are afforded appropriate attention through the Memorandum of Understanding that BLM has with the U.S. Department of Agriculture's Animal and Plant Health Inspection Service. This Memorandum of Understanding provides BLM with access to a complete staff of federal veterinarians in each state. It also supplies access to a national program manager located in Fort Collins, Colorado, who can access the Veterinary Services Centers for Epidemiology and Animal Health, Veterinary Services Western Regional hub, and U.S. Department of the Interior Biological Resources Division of the U.S. Geological Survey. In addition, this ensures that Animal and Plant Health Inspection Service will be able to incorporate the wild, free-roaming horses managed by BLM into its responsibility to ensure the health and safety of the nation's plants and animals.

At both levels, the staff of Animal and Plant Health Inspection Service is involved with the State of Wyoming, private practitioners, and other federal agencies to ensure the appropriateness of all activities involving wild, free-roaming horses managed by BLM.

The Wild, Free-Roaming Nature (of Wild Horses)

There are approximately 30,000 wild horses in North America, and approximately 2,000,000 domestic horses. In the Approved RMP, the term "wild, free-roaming nature" is used to describe wild horses.

Currently, horses in all of the HMAs exhibit a wild, free-roaming nature. They are typically wary of humans, but do not display signs that would indicate an intense fear. They rely on their acute senses, especially their sight, to enable them to maintain a feeling of safety. They use their speed and agility to quickly regain a “safe” distance when disturbed. They do not recognize or seek any dependence on humans for sustenance. One of the principle distinctions between domestic and wild horses is the ability of wild horses to make certain choices. They can choose their space, their diet, and their company. They can choose optimal behaviors for survival. In contrast, their domesticated cousins have only limited choices and depend on humans for sustenance.

The loss of a horse’s wild, free-roaming nature is not a fatal disease, but it does have consequences as well as causes. The wild, free-roaming nature takes a certain kind and amount of space to sustain. What is currently available to the horses in the HMAs satisfies both kinds of space. Changes introduced to either the kind or amount of space available will cause the horses to make different choices, with the choices becoming more varied as more change occurs. Change comes in a variety of forms, most of which are either a function of, or are accompanied by, increased human presence. New roads, structures, facilities, and fences are examples. As a consequence of these increased human interactions, wild horses can lose their wild nature. Wild horses seek out the most convenient foraging areas, and therefore can become more competitive with domestic livestock. Band structure and function could cease to provide a secure environment in which young horses can mature and learn successful wild horse behavior.

Appendix M. Greater Sage-grouse Conservation Objectives Final Report Consistency Review

On March 23, 2010, the U.S. Fish and Wildlife Service (USFWS) determined that the greater sage-grouse (*Centrocercus urophasianus*) warranted the protections of the Endangered Species Act of 1973, as amended, 16 United States Code 1531 et seq., but that adding it to the List of Endangered and Threatened Wildlife under the Endangered Species Act was precluded by higher priority listing actions. Species found to be warranted for listing but precluded by higher priority listing actions ("warranted but precluded") are placed on the federal list of candidate species under the Endangered Species Act. Shortly after the greater sage-grouse became a candidate species, the USFWS entered into a court-approved settlement agreement with several environmental groups, which formalized a schedule for making listing determinations for more than 200 candidate species nationwide. The court-approved schedule indicates that a decision on whether to propose the greater sage-grouse for listing as an endangered or threatened species, or a not-warranted finding, is due by September 2015.

Wyoming Governor Matthew Mead and Secretary of the Interior Kenneth Salazar co-hosted a meeting in December 2011 to address coordinated conservation of the greater sage-grouse across its range. Ten states within the range of the greater sage-grouse were represented, as were the U.S. Forest Service, the Natural Resources Conservation Service, and the Department of the Interior – including representatives from the Department of the Interior Bureau of Land Management (BLM) and the USFWS. The primary outcome of the meeting was the creation of a Sage-Grouse Task Force (Task Force) chaired by Governors Mead (Wyoming) and Hickenlooper (Colorado) and the Director of the BLM. The Task Force was directed to develop recommendations on how to best advance a coordinated, multi-state, range-wide effort to conserve the greater sage-grouse, including the identification of conservation objectives to ensure the long-term viability of the species.

The USFWS undertook the development of range-wide greater sage-grouse conservation objectives to define the degree to which threats need to be reduced to conserve greater sage-grouse so that the species is no longer in danger of extinction or likely to become in danger of extinction in the foreseeable future. Recognizing that state wildlife agencies have management expertise and management authority for greater sage-grouse, the USFWS created a Conservation Objectives Team of state and USFWS representatives to accomplish this task. Each member was selected by his state or agency.

On March 22, 2013, the USFWS released the final report of the Conservation Objectives Team (USFWS 2013), which is available online at: http://www.fws.gov/mountain-prairie/species/birds/sagegrouse/COT/COT-Report-with-Dear-Interested-Reader-Letter.pdf. A draft had been released on August 1, 2012, but the document contained a disclaimer that it had been "submitted for scientific peer review." It should therefore be considered incomplete because future revisions are possible and it was therefore not appropriate for consideration in the Environmental Impact Statement (EIS). The *Greater Sage-grouse Conservation Objectives Final Report* provides a "brief overview of the threats to sage-grouse and sagebrush habitats" and refers the reader to the USFWS 2010 warranted but precluded finding for this species (75 *Federal Register* 13910). The threats include loss and fragmentation of sagebrush habitat, primarily as the result of human activities, and wildfire, predation, infectious diseases, and other issues of concern.

The *Greater Sage-grouse Conservation Objectives Final Report* indicates that federal land management agencies and many state and local governments are working to develop adequate mechanisms to address these threats and to provide sufficient regulatory mechanisms to conserve greater sage-grouse and their habitats. One effort the report identifies is the Wyoming Governor's Greater Sage-grouse Core Area strategy detailed in Executive Order 2011-5, which provides general information regarding greater sage-grouse and its range, including declines from its historic range. The report discusses the greater sage-grouse need for large areas of contiguous habitat, and provides information regarding other habitat needs; identifies threats to greater sage-grouse populations and habitat; defines a broad conservation goal; and identifies priority areas for conservation based on three parameters: population representation, redundancy, and resilience (these concepts are explained at USFWS 2013, page 12). The conservation goal was defined as "the long-term conservation of sage-grouse and healthy sagebrush shrub and native perennial grass and forb communities by maintaining viable, connected, and well-distributed populations and habitats across their range, through threat amelioration, conservation of key habitats, and restoration activities."

In making recommendations, the Conservation Objectives Team relied on state plans, such as the Wyoming Governor's Core Area strategy, for mapping of "key areas" across the landscapes that are necessary to maintain redundant, representative, and resilient populations. These areas were called Priority Areas for Conservation. Priority Areas for Conservation represent areas that the states identified as crucial, not individual populations. Because some threats or conservation needs are not known with certainty (for example, the effects of climate change), the report stressed the need for flexibility in future management.

On February 25, 2013, prior to the March 22, 2013 release of the final Conservation Objectives Team Report, the BLM Lander Field Office published its Lander Proposed Resource Management Plan (RMP) and Final EIS (BLM 2013) for a 30-day (February 25 through March 22, 2013) administrative review/protest period by interested parties, tribes, and government agencies that participated in the planning effort.

Following the release of the Conservation Objectives Team Report, the BLM thoroughly analyzed the Report and the science on which it was based and determined that the Report did not constitute "significant new information relevant to environmental concerns and bearing on the proposed action or its impacts" such that supplementation of the Final EIS is required. See 40 Code of Federal Regulations (CFR) 1502.9(c)(1). This appendix explains the BLM's analysis of the information summarized in the report and the manner in which the Draft EIS and Final EIS evaluated that information.

The Report made recommendations for greater sage-grouse conservation based upon scientific information that the BLM had considered in developing the range of alternatives, in describing the affected environment, and evaluating the environmental impacts. The Report did not constitute significant new information which would require additional or revised alternatives, would change the understanding of the affected environment or require additional analysis. The purpose of the Report was to take the best scientific information available to the Team including the BLM and the Wyoming Game and Fish Department (WGFD) and to make policy recommendations. It was not itself new information nor was the science on which the Report was based new information requiring new analysis. It therefore did not constitute significant new information relevant to environmental concerns and bearing on the proposed action or its impacts and no supplemental EIS was required.

An analysis of the science regarding greater sage-grouse was conducted by the BLM in preparing the National Technical Team Report on which the Final EIS relies. In addition, the BLM has consulted with the WGFD and the USFWS throughout the preparation of this document for their scientific input to the analysis.

A RMP makes a land-management decision based upon best-available science. By comparing the land management decisions analyzed and made in this EIS process to those recommended by the Conservation Objectives Team Report (as was done in the Final EIS for the recommendations of the National Technical Team Report), the BLM shows that information contained in the Conservation Objectives Team Report did not lead to different management considerations and was thus not “significant”.

The Lander Proposed RMP and Final EIS addressed the management of greater sage-grouse throughout the document but, primarily in the *Biological Resources – Special Status Species* section. Special status species include species listed or proposed for listing under the Endangered Species Act, together with species designated internally as BLM-sensitive in accordance with BLM Manual 6840. Manual 6840 provides policy and guidance for the conservation of special status species and directs the BLM to initiate conservation measures to promote sensitive species conservation so as to minimize the likelihood and need for listing under the Endangered Species Act. Greater sage-grouse are a Wyoming BLM-designated sensitive species and management protections have been in place since the existing Lander RMP was authorized in 1987. Because of their designation as a sensitive species, the Lander Field Office was required to address greater sage-grouse in the Proposed RMP and Final EIS.

The *Greater Sage-grouse Conservation Objectives Final Report* cites many of the references the BLM used in preparing the Lander Proposed RMP and Final EIS, such as the Connelly and Hagen references (Connelly et al. 2000; Hagen et al. 2007) in Management Action 6069. The Wyoming Governor’s Core Area strategy, also cited in the report, was adopted in the Proposed RMP and Final EIS as the BLM’s mechanism to address conservation of greater sage-grouse habitat. In addition, threats identified in the Conservation Objectives Team report and the USFWS greater sage-grouse listing decision were addressed in the Proposed RMP and Final EIS at page 417.

While the science regarding greater sage-grouse conservation is evolving as additional research is conducted, the science behind the conservation measures identified in the Conservation Objectives Team Report were well understood prior to the report’s release and formed the basis of the greater sage-grouse goals, objectives, and management actions that were fully analyzed in the Lander Proposed RMP and Final EIS. For example, based upon the BLM’s understanding that motor vehicles may have adverse impacts to greater sage-grouse, the Lander Proposed RMP and Final EIS does not establish motorized “play areas” in greater sage-grouse priority habitat. This aligns with a conservation measure identified in the Conservation Objectives Team Report to close important greater sage-grouse use areas to motorized vehicle use. Similarly, the science that surface disturbance in proximity to greater sage-grouse leks adversely impacts successful breeding and nesting informed Alternative B, which would have closed Core Area to oil and gas leasing and limited surface disturbance within three miles of a lek.

The Lander Proposed RMP and Final EIS fully considered both the 2010 USFWS listing decision and the publication of the National Technical Team Report on greater sage-grouse conservation in

December 2011, which were the basis for the inclusion of many conservation measures, such as Required Design Features.

Table M.1, "General Conservation Objectives" (p. 336) identifies measures from the Conservation Objectives Team Report (highlighted in gray) and then provides the management action numbers in the Approved RMP or a citation to the Final EIS where the BLM addressed the types of conservation objectives that were later identified in the Conservation Objectives Team Report. While there are notable differences in the language used to describe various conservation measures, the desired conservation effects from the implementation of those measures are consistent between the Lander Proposed RMP and Final EIS and the Conservation Objectives Team Report. Additional conservation measures (from the Conservation Objectives Team Report or other sources as the greater sage-grouse science evolves) can be addressed through implementation-level actions; the Lander Record of Decision and Approved RMP is intended to be a large scale land use allocation to be implemented in site-specific actions.

M.1. Conservation Objectives

The primary conclusion of the Conservation Objectives Team Report was that, due to uncertainties from lack of robust, range-wide genetics-based connectivity analyses, the limited ability to successfully restore lower-elevation and weed-infested habitats, and the possible impacts of climate change on future habitat, "impacts to sage-grouse and their habitats should be avoided to the maximum extent possible to retain conservation options…When avoidance is not possible, meaningful minimization and mitigation of the impacts should be implemented, along with a monitoring program to evaluate the efficacy of these measures. Conservation measures should be adapted to maximize effectiveness as new knowledge is obtained" at USFWS 2013, page 31.

The Lander planning area was not identified in the Conservation Objectives Team Report as presenting a "Quasi-extinction Risk" to greater sage-grouse populations, Table 2, USFWS 2013, page 16. Accordingly, portions of the report that apply only to these populations are not addressed here.

Table M.1. General Conservation Objectives

Record Number	Document/Page	Paragrah/Decision/ Management Action	Objective
1	COT 31	1	*Stop population declines and habitat loss.*
2	COT 32	1(a)	Eliminating or redesigning activities known to negatively impact greater sage-grouse and their habitats.
3	Final EIS 417		The Lander Proposed RMP and Final EIS addresses population decline and habitat loss by adopting the Core Area Strategy, which emphasizes protection of greater sage-grouse priority habitat (Core Area) by limiting the number and size of disturbances in Core Area and prohibiting surface occupancy in an area within 0.6 mile around the perimeter of leks in Core Area. Outside Core Area, lesser protections are applied to leks and development is encouraged by not having limitations on the percentage of the project that may be disturbed (although minimization of project size is required throughout the planning area.)

Record Number	Document/Page	Paragrah/Decision/ Management Action	Objective
4	ARMP	Decision 4109	In greater sage-grouse Core Area, limit the density of disturbance of an activity (oil and gas or mining) to an average of one site per square mile (640 acres) within the DDCT. The one location and cumulative value of existing disturbances will not exceed 5 percent of suitable habitat of the DDCT area. Utilize the most current greater sage-grouse density disturbance process or other state and/or federal agreed-upon process for compliance evaluations.
5	Final EIS 126	Management Action 4093	Alternative B analyzed the following: "Greater sage-grouse Core Area is closed to oil and gas and geothermal leasing."
6	ARMP	Decision 4104	Prohibit surface-disturbing or surface occupancy on or within an 0.6-mile radius of the perimeter of occupied greater sage-grouse leks in Core Area and on or within an 0.25-mile radius of the perimeter of occupied greater sage-grouse leks outside Core Area (Map 24). In Core Area, keep any new roads or road upgrades 1.9 miles from the perimeter of the lek.
7	COT 33	1(b)	Conserve all Priority Areas for Conservation; threats in Priority Areas for Conservation should be limited so that the 2006 Western Association of Fish and Wildlife Agencies conservation trends are met. Improve degraded habitats.
8	ARMP	Decision 4099	To minimize adverse impacts to greater sage-grouse from allowable uses, utilize recommendations from the following sources: ● Grazing Influence, Management, and Objective Development in Wyoming's Greater Sage-Grouse Habitat-With Emphasis on Nesting and Early Brood Rearing ● Sage-Grouse Habitat Management Guidelines for Wyoming ● Studies in Avian Biology article "Ecology and Conservation of Greater Sage-Grouse: A Landscape Species and Its Habitats" ● Western Association of Fish and Wildlife Agencies Greater ● Sage-Grouse Conservation Strategy Utilize additional information as it becomes available.
9	ARMP	Decision 1022	Identify areas with soil disturbance that were not successfully reclaimed. Priorities for reclamation of these areas are determined on a case-by-case basis with an emphasis on greater sage-grouse Core Area and other important wildlife habitat. Develop partnerships and funding sources to implement reclamation where no responsible party has the reclamation obligation.

Record Number	Document/Page	Paragrah/Decision/ Management Action	Objective
10	ARMP	Decision 1016	Require a full reclamation bond specific to the site for all new disturbances in accordance with 43 CFR 3104.2, 3104.3, and 3104.5 or current policy. Ensure bonds are sufficient for costs relative to reclamation (Connelly et al. 2000; Hagen et al. 2007) that would result in restoration of disturbed lands in accordance with the final reclamation standards and objectives identified in Appendix B (p. 187). Base the reclamation costs on the assumption that contractors for the BLM will perform the work.
11	ARMP	Decision 1019	Consider wildlife habitat objectives in all final reclamation objectives. In Core Area, final reclamation objectives will be to restore greater sage-grouse habitat. Include metrics to ensure that restoration goals are met.
12	COT 32	2(a)	*Implement targeted habitat management and restoration.* Some areas require targeted management to improve habitat through active management, such as habitat restoration.
13	Final EIS 35 et seq.		Ninety-nine percent of the Lander planning area contains greater sage-grouse habitat; 70 percent consists of Core Area. Management actions that might be needed for small, isolated priority habitat are not needed or cannot be justified for priority habitat that is as extensive and contiguous as in the Lander planning area.
14	COT 32	2(b)	Effectiveness of restoration needs to be demonstrated before "credited" against loss.
15	ARMP	Decision 4109	Although Lander's priority habitat does not require targeted management, successful reclamation is required before habitat is counted as not disturbed in calculating percent of disturbance. See the Density and Disturbance Calculation Tool (available at: http://ddct.wygisc.org) incorporated into the RMP by Decision 4109: "In greater sage-grouse Core Area, limit the density of disturbance of an activity (oil and gas or mining) to an average of one site per square mile (640 acres) within the DDCT. The one location and cumulative value of existing disturbances will not exceed 5 percent of suitable habitat of the DDCT area. Utilize the most current greater sage-grouse density disturbance process or other state and/or federal agreed-upon process for compliance evaluations." See also Decisions 1016 and 1019.
16	COT 33	2(c)	Immediately implement effective conservation and reclamation activities, including monitoring.

Record Number	Document/Page	Paragrah/Decision/ Management Action	Objective
17	ARMP	Decision 1021	Although not required for Lander because Lander does not contain this type of habitat (see above), Approved RMP decisions require reclamation activities and monitoring. "Require that during and following reclamation activities, the land user is responsible for monitoring to help ensure interim and final reclamation success as defined in reclamation policies and with the standards identified in Appendix B (p. 187) is achieved. Require follow-up seeding and/or other corrective or remedial erosion-control measures on areas of surface disturbance, as appropriate and, if necessary, protecting the reclaimed landscape until reclamation standards have been achieved. Monitoring and follow-up reclamation practices will continue on interim and final reclaimed areas until the standards identified in Appendix B (p. 187) have been successfully achieved."
18	ARMP	Decision 1023	Adapt reclamation methods to specific requirements based on plant communities within potential ecological sites and site-specific objectives. Incorporate reclamation objectives and require reclamation plans, including reclamation standards as identified in Appendix B (p. 187) on a site-specific basis.
19	ARMP	Decision 1024	Utilize management practices, including phased development and BMPs to achieve reclamation success. Require Reclamation Objectives and Standards as identified in Appendix B (p. 187), in all reclamation plans.
20	ARMP	Decision 1025	Reclamation management practices will select native plant species based on site characteristics and ecological site descriptions. Reclamation success will be determined based on the criteria and standards identified in Appendix B (p. 187).
21	COT 33	2(d)	Provide active management to non-habitat both inside and outside Priority Areas for Conservation to restore habitat and enhance management flexibility.
22	ARMP	Decision 4017	Although not required because of Lander's unique habitat, Lander has management to promote restoration of habitat. Decision 4017 provides: Use vegetation treatments to change plant community composition in a manner that achieves wildlife objectives, rangeland health objectives, and facilitates grazing management. Ensure that projects conform to resource objectives for the site. See also Decision 1022 above for reclamation of areas previously disturbed.
23	COT 33	3	*Develop and implement state and federal sage-grouse conservation strategies and associated incentive-based conservation actions and regulatory mechanisms.*

Record Number	Document/Page	Paragrah/Decision/ Management Action	Objective
24	Final EIS 417		The BLM has adopted the Core Area Strategy. The Lander Proposed RMP management actions incorporate the strategy that incentivize development outside of Core Area, reduced prescriptions such as smaller lek buffers and no caps on surface disturbance. See Decision 4109 above. The BLM is developing Regional Mitigation Planning efforts, which will be available to incentivize habitat restoration and conservation. See the Regional Mitigation Manual Section-1794, currently in draft, but effective immediately in accordance with Washington Office Instruction Memorandum 2013-142.
25	COT 33	3(a)	All stakeholders need to take part.
26	Final EIS 417		The U.S. Forest Service, the Bureau of Indian Affairs, the Wind River Indian Reservation, and the Wyoming BLM have adopted the Core Area Strategy. The strategy applies to all split-estate lands with federal minerals and to private lands where state or federal funding is utilized or a state or federal approval is needed (such as an industrial wind-energy development, which requires State of Wyoming Industrial Siting Authority approval).
27	COT 34	3(b)	Use Policy for Evaluation of Conservation Efforts guidelines for conservation plans and have them in place by 2014.
28			The ROD and Approved RMP is on target to meet the timeline. This will be covered in implementation-level activities.
29	COT 34	3(c)	The regulatory mechanism should address threats to the maximum extent practicable.
30	ARMP	Decision 4056	The ROD and Approved RMP did so by adopting the Core Area Strategy. The USFWS determined that the Core Area Strategy, as applied in the Lander planning area, could be effective to prevent a listing decision. See the October 25, 2012 memo from USFWS attached at the end of this appendix. Additional management actions such as Decision 4056 offer additional protection: Outside of Designated Development Areas, wildlife seasonal protections for surface-disturbing and disruptive activities apply to maintenance and operations actions when the activity is determined to be detrimental to wildlife (see Appendix F (p. 233)). Reclamation of surface disturbance will be in accordance with Appendix B (p. 187) for non-Designated Development Areas.
31	COT 34	3(d)	If landscape-wide management is not in place by 2014, interim management should be applied.
32	ARMP		The Lander Approved RMP is on track to be completed within the timeline. The signing of this ROD and Approved RMP establishes that the Lander Field Office is meeting this target.
33	COT 34	3(e)	Plans should have a monitoring plan to evaluate the effectiveness of conservation.
34	ROD	Appendix N (p. 357)	See the monitoring plan in Appendix N (p. 357).
35	COT 34	4	*Develop and implement proactive, voluntary conservation actions.*

Record Number	Document/Page	Paragrah/Decision/ Management Action	Objective
36	Wyoming Executive Order 2011-05		The Lander Approved RMP, by implementing the Core Area Strategy, addresses this issue through the Wyoming Governor's Executive Order 2011-05 provides: "Funding, assurances (including efforts to develop Candidate Conservation Agreements and Candidate Conservation Agreements with Assurances), habitat enhancement, reclamation efforts, mapping and other associated proactive efforts to assure viability of Greater Sage-Grouse in Wyoming should be focused and prioritized to take place in Core Population Areas." Paragraph 5, page 3.
37	COT 35	5	*Develop and implement monitoring plans to track the success of state and federal conservation strategies and voluntary conservation actions.*
38	ARMP		The Lander Approved RMP has a monitoring plan, which will be implemented with the ROD. Success of conservation strategies is part of the monitoring plan. See Appendix N (p. 357).
Specific Conservation Objectives			
39	COT 36		Maintain the integrity of Priority Areas for Conservation, meeting the population objectives of the Western Association of Fish and Wildlife Agencies Conservation Strategy. Habitat and populations outside of Priority Areas for Conservation may be critical to maintain connectivity, habitat restoration, and areas for populations to expand.
40	ARMP	Decision 4108	See above discussion of the specifics of the Wyoming Governor's Core Area strategy as applied in the Lander Approved RMP. No connectivity areas in the Lander planning area were identified by the Wyoming Game and Fish Department. See also Decision 4108, which provides: Prohibit surface-disturbing and disruptive activities in greater sage-grouse winter concentration areas, as they are identified, from December 1 to March 14 unless data indicate a date modification is necessary to better protect wintering greater sage-grouse. See also Decisions 4104 (provided above) and 4105.
41	COT 37	1	Retain sage-grouse habitats within Priority Areas for Conservation.
42	ARMP		See the decisions provided above for limits on development in Core Area.
43	COT 37	2	If Priority Areas for Conservation are lost to catastrophic events, implement appropriate restoration efforts.
44	ARMP	Decision 3009	Monitor fuels treatment and wildfire burn areas for sufficient time after treatment or fire event in order to determine short-term and long-term project success, detect weed infestations and accelerated soil erosion, and assess overall vegetation recovery. Utilize all available rehabilitation tools to control weed infestation and accelerated soil erosion. Implement rest of treated areas from livestock grazing for two full growing seasons on all prescribed or wildland fire burn areas unless vegetation recovery dictates otherwise.

Record Number	Document/Page	Paragrah/Decision/ Management Action	Objective
45	Washington Office Instruction Memorandum 2013-142		Establishes Regional Mitigation framework.
46	COT 37	3	Restore and rehabilitate degraded sage-grouse habitats in Priority Areas for Conservation.
47	ARMP	Decision 1022	Decision 1022 is provided above at Record 9.
48	ARMP	Decision 6064	Prioritize the management of hot-season grazing on riparian-wetland and meadow complexes to promote recovery or maintenance of key vegetation species, appropriate for the ecological site and water quality, through the use of comprehensive grazing strategies (see Glossary (p. 155)) as identified in Appendix G (p. 235). In areas of continuous season-long grazing where rangeland health standards are not met, modify existing grazing permits to incorporate rest and/or deferment of grazing to facilitate rangeland health recovery and attainment of rangeland health standards.
49	ARMP	Decision 6065	Continue implementation of existing allotment management plans. Develop and implement new comprehensive grazing strategies and Allotment Management Plans with grazing permittees/lessees and interested publics to achieve desired resource goals. Grant administrative use authorizations on a case-by-case basis with approval from the Authorized Officer. All access agreements will specify the following: what type of use is allowed and for what purpose; times, dates or seasons of access; where the use will occur; and additional stipulations required to provide for adequate resource protection and to meet planning decisions.
50	COT 37	4	Identify areas and habitats outside of Priority Areas for Conservation which may be necessary to maintain the viability of sage-grouse.
51			The Core Area Strategy did not identify any areas outside of Core Area in the Lander planning area. With 70 percent of the planning area Core Area, there is sufficient redundancy to meet Conservation Objectives Team objectives.
52	COT 37	5	Re-evaluate Priority Areas for Conservation at least every 5 years or as new information becomes available.

Record Number	Document/Page	Paragrah/Decision/ Management Action	Objective
53	Wyoming Executive Order 2011-05 2	1	"Management by state agencies should focus on the maintenance and enhancement of Greater Sage-Grouse habitats, populations and connectivity areas identified in Attachment A. Absent substantial and compelling information, these Core Population Areas should not be altered for at least five (5) years." Also, the BLM cooperates with the Wyoming Game and Fish Department to update the lek database at least annually and sometimes more often. While this information does not change Core Area boundaries, it changes the analysis of disturbance caps using the Density and Disturbance Calculation Tool in Core Area and expands the places where no surface occupancy restrictions are applied around leks outside of Core Area.
54	COT 37	6	Pursue opportunities to increase connectivity and do active restoration to expand habitat.
55	ARMP	Goals BR: 13 and 14 and related objectives	Provide for increased abundance and distribution and restore and rehabilitate areas "with emphasis on reconnecting patches occupied by stronghold and isolated populations of greater sage-grouse." There is little unconnected Core Area in the Lander planning area; see Map 24.
56	COT 38	7	Maintain habitat adjacent to burned areas. Identified as a serious threat in the Great Basin.
57	ARMP	Decision 3011	"…Prioritize vegetation treatment projects with the highest benefits and the highest likelihood of wildfire." Although the Lander planning area is not subject to the types of large-scale adverse impacts from wildfire experienced in the Great Basin (Lander's fires are around population centers and in the mountains, all of which are outside of Core Area; see Map 18 of the *Summary Analysis of the Management Situation for the Lander Resource Management Plan Revision*), areas are monitored post-fire to evaluate the success of restoration and rehabilitation (Decisions 3009 and 3016.)
Threat Reduction			
58	COT 40	*Fire*	

Record Number	Document/Page	Paragrah/Decision/ Management Action	Objective
59		*Conservation Objective:* Retain and restore healthy native sagebrush plant communities within the range of sage-grouse. Conservation Measures: 1. Restrict or contain fire within the normal range of fire activity (assuming a healthy native perennial sagebrush community), including size and frequency, as defined by the best available science. 2. Eliminate intentional fires in sagebrush habitats, including prescribed burning of breeding and winter habitats. 3. Design and implement restoration of burned sagebrush habitats to allow for natural succession to healthy native sagebrush plant communities. This will necessitate an intensive and well-funded monitoring system for this long-term endeavor. To be considered successful, restoration must also result in returning or increasing sage-grouse populations within burned areas. 4. Implement monitoring programs for restoration activities. To ensure success, monitoring must continue until restoration is complete (establishment of mature, healthy native sagebrush plant communities), with sufficient commitments to make adequate corrections to management efforts if needed. 5. Immediately suppress fire in all sagebrush habitats. Where resources are limited, these actions should first focus on Priority Areas for Conservation and any identified connectivity corridors between Priority Areas for Conservation.	
60	ARMP	Decisions 3004, 3007-3013, and 3015-3017 address the conservation measures identified in the COT report.	
61	COT 42	*Nonnative Invasive Plant Species*	
62		*Conservation Objective:* Maintain and restore healthy, native sagebrush plant communities. Conservation Measures: 1. Retain all remaining large intact sagebrush patches, particularly at low elevations. 2. Reduce or eliminate disturbances that promote the spread of these invasive species, such as reducing fires to a “normal range” of fire activity for the local ecosystem, employing grazing management that maintains the perennial native grass and shrub community appropriate to the local site, reducing impacts from any source that allows for the invasion by these species into undisturbed sagebrush habitats, and precluding the use of treatments intended to remove sagebrush. 3. Monitor and control invasive vegetation post-wildfire for at least three years. 4. Require best management practices for construction projects in and adjacent to sagebrush habitats to prevent invasion. 5. Restore altered ecosystems such that non-native invasive plants are reduced to levels that do not put the area at risk of conversion if a catastrophic event were to occur. This is especially important within Wyoming big sagebrush communities as these cover types are the most at risk to displacement by cheatgrass (Wisdom et al. 2005). While complete elimination of non-native invasive plants would be ideal, we acknowledge that this is unlikely given our current understanding of underlying ecological processes, shifts in climate, and lack of resources.	

Record Number	Document/Page	Paragrah/Decision/ Management Action	Objective
63	ARMP	A number of management actions address these conservation measures, including Decisions 3004, 3009, 3012, 4015, and 4016, Goals BR: 3 and BR: 4 and related Objectives, and Decisions 4020 through 4029.	
64	COT 43	*Energy Development*	
65		*Conservation Objective:* Energy development should be designed to ensure that it will not impinge upon stable or increasing sage-grouse population trends. 1. Avoid energy development in Priority Areas for Conservation (Doherty et al. 2010). Identify areas where leasing is not acceptable, or not acceptable without stipulations for surface occupancy that maintains sage-grouse habitats. 2. If avoidance is not possible within Priority Areas for Conservation due to pre-existing valid rights, adjacent development, or split estate issues, development should only occur in non-habitat areas, including all appurtenant structures, with an adequate buffer that is sufficient to preclude impacts to sage-grouse habitat from noise, and other human activities. 3. If development must occur in sage-grouse habitats due to existing rights and lack of reasonable alternative avoidance measures, the development should occur in the least suitable habitat for sage-grouse and be designed to ensure at a minimum that there are no detectable declines in sage-grouse population trends (and seek increases if possible) by implementing the following: a. Reduce and maintain the density of energy structures below which there are not impacts to the function of the sage-grouse habitats (as measured by no declines in sage-grouse use), or do not result in declines in sage-grouse populations within Priority Areas for Conservation. b. Design development outside Priority Areas for Conservation to maintain populations within adjacent Priority Areas for Conservation and allow for connectivity among Priority Areas for Conservation. c. Consolidate structures and infrastructure associated with energy development. d. Reclamation of disturbance resulting from a proposed project should only be considered as mitigation for those impacts, not portrayed as minimization. e. Design development to minimize tall structures (turbines, powerlines), or other features associated with the development (e.g., noise from drilling or ongoing operations; [Blickley et al. 2012]).	
66	ARMP	A number of decisions address these conservation objectives (either in the Approved RMP or under Alternative B in the Proposed RMP). These include: Decisions 1015-1016, 1022, 2001, 2002, 2004, 2008 through 2013, 4051, 4067, 4069, 4074, 4079, 4094 through 4100, 4102 through 4106, 6011 through 6012, 6015, and 6017 through 6024.	
67	COT 44	*Sagebrush Removal*	
68		*Conservation Objective:* Avoid sagebrush removal or manipulation in sage-grouse breeding or wintering habitats.	
69	ARMP	A number of decisions address this conservation objective. These include Decisions 3007, 3008, 3012, 3013, 3017, and 4098. See also Objective BR: 13.1.	
70	COT 44	*Grazing*	

Record Number	Document/Page	Paragrah/Decision/ Management Action	Objective
71		*Conservation Objective:* Conduct grazing management for all ungulates in a manner consistent with local ecological conditions that maintains or restores healthy sagebrush shrub and native perennial grass and forb communities and conserves the essential habitat components for sage-grouse (e.g. shrub cover, nesting cover). Areas which do not currently meet this standard should be managed to restore these components. Adequate monitoring of grazing strategies and their results, with necessary changes in strategies, is essential to ensuring that desired ecological conditions and sage-grouse response are achieved. Conservation Options: 1. Ensure that allotments meet ecological potential and wildlife habitat requirements; and, ensure that the health and diversity of the native perennial grass community is consistent with the ecological site. 2. Inform and educate affected grazing permittees regarding sage-grouse habitat needs and conservation measures. 3. Incorporate sage-grouse habitat needs or habitat characteristics into relevant resource and allotment management plans, including the desired conditions with the understanding that these desired conditions may not be fully achievable: (a) due to the existing ecological condition, ecological potential or the existing vegetation; or (b) due to causal events unrelated to existing livestock grazing. 4. Conduct habitat assessments and, where necessary, determine factors causing any failure to achieve the habitat characteristics. Make adjustments as appropriate. 5. Given limited agency resources, priority should be given to Priority Areas for Conservation and then sage-grouse habitats adjacent to Priority Areas for Conservation.	
72	ARMP	A number of decisions address this conservation objective and implement the conservation options. These include: Decisions 4099-4102, 6050, and 6054-6074.	
73	COT 46	Range management structures (referred to in the Lander Approved RMP as "infrastructure")	
74		*Conservation Objective:* Avoid or reduce the impact of range management structures on sage-grouse. Conservation Measures: 1. Range management structures should be designed and placed to be neutral or beneficial to sage-grouse. 2. Structures that are currently contributing to negative impacts to either sage-grouse or their habitats should be removed or modified to remove the threat.	
75	ARMP	Several of the livestock grazing decisions address this issue, including Decisions 6066, 6067, and 6072 through 6074. See also Decisions 4113, 4115, 4116, 4118, and 4119.	
76	COT 46	*Free Roaming Equid Management*	

Record Number	Document/Page	Paragrah/Decision/ Management Action	Objective
77		*Conversation Objective:* Protect sage-grouse from the negative influences of grazing by free-roaming equids. Conservation Measures: 1. Develop, implement, and enforce adequate regulatory mechanisms to protect sage-grouse habitat from negative influences of grazing by free-roaming equids. 2. Manage free-roaming equids at levels that allow native sagebrush vegetative communities to minimally achieve Proper Functioning Condition (for riparian areas) or Rangeland Health Standards (for uplands). Similar measures should be implemented on non-federal land surfaces. Conservation Options: 1. Determine if the current appropriate management levels maintain suitable sage-grouse habitat parameters. Support additional research to quantitatively determine impacts of wild horses and burros on sage-grouse habitat parameters. 2. Until research on appropriate management levels is completed, manage for appropriate management levels within horse management areas on federal lands. Current appropriate management levels should be adjusted for drought conditions. 3. Develop scientific procedures that can be replicated to count horses so that proper management actions can be implemented when numbers exceed appropriate management levels. 4. Develop a sound monitoring program with prescriptive management "triggers" to make adjustments in horse and burro numbers or their distribution, as necessary.	
78	ARMP	A number of management actions address this conservation objectives and the conservation options. These include Decisions 4113, 4115, and 4129.	
79	COT 47	*Pinyon-juniper Encroachment*	
80		*Conservation Objective:* Remove pinyon-juniper from areas of sagebrush that are most likely to support sage-grouse (post-removal) at a rate that is at least equal to the rate of pinyon-juniper incursion. Conservation Options: 1. Prioritize the use of mechanical treatments for removing pinyon and/or juniper. These techniques allow for more selective removal of invading plants, and more importantly allows understory habitats to remain intact. 2. Use caution when planning use of prescribed fire in high elevation mountain big sage sites to prevent fire escape and any subsequent establishment of invasive annual grasses or other weeds. 3. Reduce juniper cover in sage-grouse habitats to less than 5% (Freese 2009; Cassaza et al. 2010), but preferably eliminate entirely. 4. Employ all necessary management actions to maintain the benefit of pinyon and/or juniper removal for sage-grouse habitats, including long-term monitoring (greater than 30 years) with appropriate management responses should the resultant habitat quality decline.	

Record Number	Document/Page	Paragrah/Decision/ Management Action	Objective
81	ARMP	Decision 4017	Use vegetation treatments to change plant community composition in a manner that achieves wildlife objectives, rangeland health objectives, and facilitates grazing management. Ensure that projects conform to resource objectives for the site.
82	ARMP	Decision 4080	Establish limits of acceptable cumulative habitat loss, including habitat modification, fragmentation, and loss of function for special status species on a case-by-case basis. Limits of habitat loss and fragmentation for greater sage-grouse in Core Area are addressed in Decision Record 4109.
83	COT 48	*Agricultural Conversion*	
84		*Conservation Objective:* Avoid further loss of sagebrush habitat for agricultural activities (both plant and animal production) and prioritize restoration. In areas where taking agricultural lands out of production has benefited sage-grouse, the programs supporting these actions should be targeted and continued (e.g., Conservation Reserve Program State Acres for Wildlife Enhancement). Threat amelioration activities should, at a minimum, be prioritized in Priority Areas for Conservation, but should be considered in all sage-grouse habitats. Conservation Options: 1. Revise Farm Bill policies and commodity programs that facilitate ongoing conversion of native habitats to marginal croplands (e.g., through the addition of a 'Sodsaver' provision), to support conservation of remaining sagebrush-steppe habitats. 2. Continue and expand incentive programs that encourage the maintenance of sagebrush habitats. 3. Develop criteria for set-aside programs which stop negative habitat impacts and promote the quality and quantity sage-grouse habitat. 4. If lands that provide seasonal habitats for sage-grouse are taken out of a voluntary program, such as Conservation Reserve Program State Acres for Wildlife Enhancement or SAFE, precautions should be taken to ensure withdrawal of the lands minimizes the risk of direct take of sage-grouse (e.g., timing to avoid nesting season). Voluntary incentives should be implemented to increase the amount of sage-grouse habitats enrolled in these programs.	
85	Most of these conservation measures do not apply to BLM land management. However, certain Approved RMP decisions address some of the issues. The livestock grazing decisions identified above would impact the maintenance of sagebrush habitats.		
86	ARMP	Decision 4102	Establish forage utilization levels in greater sage-grouse nesting habitat to ensure adequate residual cover remains.
87	ARMP	Decision 6001	Do not classify, open, or make available any BLM-administered lands for agricultural leasing or agricultural entry under either Desert Land Entry or Indian Allotment for one or more of the following reasons: unsuitable topography, presence of sensitive resources or resource conflicts, lack of water or access, small parcel size, or unsuitable soils.

Record Number	Document/Page	Paragrah/Decision/ Management Action	Objective
88	ARMP	6062	When livestock grazing permits and/or grazing preference are voluntarily relinquished in portions of or all of an allotment, analyze suitable livestock grazing management, including closure to livestock grazing where appropriate, based on benefits to resources and other uses.
89	COT 49	*Mining*	
90		*Conservation Objective:* Maintain stable to increasing sage-grouse populations and no net loss of sage-grouse habitats in areas affected by mining. Conservation Options: 1. Avoid new mining activities and/or any associated facilities within occupied habitats, including seasonal habitats; 2. Avoid leasing in sage-grouse habitats until other suitable habitats can be restored to habitats used by sage-grouse; 3. Reclamation plans should focus on restoring areas disturbed by mining and associated facilities to healthy sagebrush ecosystems, including evidence of use by sage-grouse. 4. Reclamation of abandoned mine lands should focus on restoring areas to healthy sagebrush ecosystems where possible.	
91	ARMP	Decision 2004	Approximately 467,065 acres are identified for withdrawal from locatable mineral entry; 377,020 acres are located in priority habitat (Alternative B analyzed approximately 1,633,000 acres in the Final EIS, Management Action 2007).
92	ARMP	Decision 2015	Approximately 1,336,325 acres are closed to phosphate leasing. All of the Core Area that has phosphate potential is closed. (The Approved RMP does not authorize coal leasing; see Decision 2001.)
93	ARMP	Decision 4109	Oil and gas and mining locations are limited to an average of one location per 640 acres with a 5 percent surface disturbance cap within the DDCT area.
94	ARMP	Decisions 1015-1025	Reclamation requirements include emphasizing Core Area for reclamation of previously disturbed areas that would be suitable for reclamation.
95	COT 49	*Recreation*	
96		*Conservation Objective:* In areas subjected to recreational activities, maintain healthy native sagebrush communities based on local ecological conditions and with consideration of drought conditions, and manage direct and indirect human disturbance (including noise) to avoid interruption of normal sage-grouse behavior. Conservation Options: 1. Close important sage-grouse use areas to off-road vehicle use. 2. Avoid development of recreational facilities (e.g., new roads and trails, campgrounds) in sage-grouse habitats.	
97	The Approved RMP does not authorize any developed recreation sites (e.g., campgrounds) in Core Area.		

Record Number	Document/Page	Paragrah/Decision/ Management Action	Objective
98	ARMP	Decisions 6090-6096	Johnny-Behind-the-Rocks, the only new recreational use area in Core Area, is identified for nonmotorized recreation such as trail riding and wildlife viewing with only "subtle modification" of the natural setting authorized. It is closed to motorized travel.
99	Final EIS	Management Action 6113	Alternative C analyzed a Recreation and Public Purposes lease for a motorized play area in Core Area, but this was not adopted in the Approved RMP.
100	Final EIS	Section 2.5.14	In the *Alternatives Considered but Not Carried Forward for Detailed Analysis* section, the BLM stated that it did not identify any area for cross-country motorized use for recreation, citing the need for greater sage-grouse conservation.
101	ARMP	Decision 6029	The planning area is closed to cross-country motorized use unless such use is under an administrative exemption.
102	ARMP	Decision 4059	On a case-by-case basis, close and reclaim redundant roads to reduce road density and habitat fragmentation in coordination with adjacent landowners and/or state and county governments.
103	ARMP	Decision 4069	Avoid authorizing road development in big game crucial winter range and parturition areas. (Many of these areas are in Core Area; the rest are in general habitat.)
104	ARMP	Decision 4104	Prohibit surface-disturbing activities or surface occupancy on or within an 0.6-mile radius of the perimeter of occupied greater sage-grouse leks in Core Area and on or within an 0.25-mile radius of the perimeter of occupied greater sage-grouse leks outside Core Area (Map 24). In Core Area, keep any new roads or road upgrades 1.9 miles from the perimeter of the lek.
105	COT 50	*Exurban Development*	
106		*Conservation Objective:* Limit urban and exurban development in sage-grouse habitats and maintain intact native sagebrush plant communities. Conservation Options: 1. Provide incentives to maintaining large tracts of private lands that provide habitat for sage-grouse. These incentives can include (but may not be limited to): a. Developing habitat conservation plans; b. Conservation easements or leases; and/or c. Land swaps. 2. Acquire and manage sage-grouse habitat to maintain intact ecosystems. 3. Consolidate infrastructure that supports urban and exurban development. 4. Do not allow landfills in sage-grouse habitats, or within 5 kilometer of sage-grouse habitats. 5. Do not relinquish public lands for the purpose of urban development in sage-grouse habitat.	

Record Number	Document/Page	Paragrah/Decision/ Management Action	Objective
107	The Approved RMP does not identify any lands for acquisition except for four 640–acre state land parcels. The Approved RMP does not identify any areas for urban development.		
108	ARMP	Decision 6003	No Recreation and Public Purposes leases are issued through the RMP.
109	ARMP	Decision 6005	No disposals are allowed in Core Area unless it would benefit the area's values.
110	COT 51	*Infrastructure*	
111		*Conservation Objective:* Avoid development of infrastructure within Priority Areas for Conservation. Conservation Options: 1. Avoid construction of these features in sage-grouse habitat, both within and outside Priority Areas for Conservation. 2. Power transmission corridors which cannot avoid Priority Areas for Conservation should be buried (if technically feasible) and disturbed habitat should be restored. a. If avoidance is not possible, consolidate new structures with existing features and/or preclude development of new structures within locally important sage-grouse habitats. i. Consolidation with existing features should not result in a cumulative corridor width of greater than 200m. ii. Habitat function lost from placement of infrastructure should be replaced. 3. Infrastructure corridors should be designed and maintained to preclude introduction of invasive plant species. 4. Restrictions limiting use of roads should be enforced. 5. Remove transmission lines and roads that are duplicative or are not functional. 6. Transmission line towers should be constructed to severely reduce or eliminate nesting and perching by avian predators, most notably ravens, thereby reducing anthropogenic subsidies to those species. 7. Avoid installation of compressor stations in Priority Areas for Conservation or other sage-grouse habitats where sage-grouse would be affected by noise and operation activities. 8. All commercial pipelines should be buried and habitat that is disturbed needs to be reclaimed with current and future emphasis placed on suppression of non-native invasive plant species. 9. Mitigate impacts to habitat from development of these features. 10. Remove (or decommission) non-designated roads within sagebrush habitats.	
112	ARMP	Decisions 6016-6022	Limits to ROWs, including transmission corridors. See also the Required Design Features and best management practices in Appendix E (p. 217).
113	ARMP	See also: Decisions 4076, 4111, and 4116 through 4119.	
114	COT 52	*Fences*	

Record Number	Document/Page	Paragrah/Decision/ Management Action	Objective
115		*Conservation Objective:* Minimize the impact of fences on sage-grouse populations. Conservation Options: 1. Mark fences that are in high risk areas for collision (Stevens et al. 2012) with permanent flagging or other suitable device to reduce sage-grouse collisions on flat to gently rolling terrain in areas of moderate to high fence densities (i.e., more than 1 kilometer of fence per kilometer) located within 2 kilometers of occupied leks. 2. Identify and remove unnecessary fences. 3. Placement of new fences and livestock management facilities (including corrals, loading facilities, water tanks and windmills) should consider their impact on sage-grouse and, to the extent practicable, be placed at least 1 kilometer from occupied leks (Stevens et al. 2012).	
116	ARMP	Decision 4115	In cooperation with stakeholders, design and locate fences, acknowledging the intent of greater sage-grouse Core Area management, so as not to disturb important greater sage-grouse habitat areas. When fences are authorized, require a design that has the fewest adverse impacts to greater sage-grouse, including features to reduce greater sage-grouse strikes and mortality. Require the installation of fence markers on wire fences constructed in greater sage-grouse habitat to increase fence visibility and reduce collision potential. Remove, modify, or mark fences in high-risk areas.
117	ARMP	Decision 6066	Utilizing Required Design Features and BMPs such as those in Appendix E (p. 217) applied as Conditions of Approval, develop and install range improvement projects necessary to implement comprehensive grazing strategies which will lead to improved rangeland health or to enhance successful comprehensive grazing strategies already in place. Benefits associated with the projected improvement in rangeland health should exceed the adverse impacts associated with the project infrastructure. Avoid projects that would expand grazing on the landscape without a clear link to a comprehensive grazing strategy and consideration of other resources.
118	ARMP	Decision 6067	Evaluate existing project infrastructure in the development of comprehensive grazing strategies. Identify projects that are no longer necessary, or that are contributing to adverse impacts to other resources, and modify or remove projects as appropriate to mitigate impacts. Evaluate whether the infrastructure contributes to the introduction or spread of invasive nonnative species, and develop mitigation (including removal of infrastructure) to reduce or eliminate weed infestation and spread.

Record Number	Document/Page	Paragrah/Decision/ Management Action	Objective
119	ARMP	Decision 6068	Remove or modify fences and cattleguards on a case-by-case basis to enhance other resource values and to facilitate livestock, wild horses, and wildlife movement and management.

Note: The decision number refers to the number in the ROD and Approved RMP and not the management action number assigned in the Lander Proposed RMP and Final EIS. Reorganization of the management actions after publication of the Proposed RMP and Final EIS required renumbering some of the management actions. A table cross referencing the management action number in the Proposed RMP and Final EIS with the decision number in the ROD and Approved RMP is provided in Appendix O (p. 383). All references to management actions that were analyzed in the Lander Proposed RMP and Final EIS, but that did not become part of the Lander ROD and Approved RMP, are not renumbered; those numbers are preceded by "Final EIS."

ARMP Approved Resource Management Plan
BMP Best Management Practice
CFR Code of Federal Regulations
COT Conservation Objectives Team
EIS Environmental Impact Statement
RMP Resource Management Plan
ROD Record of Decision
USFWS U.S. Fish and Wildlife Service

As described in more detail in Section 2.7.1 of the Final EIS, the BLM commenced a multi-state planning effort to revise land use plans in response to the USFWS's identification of lack of regulatory certainty as part of its "warranted" finding for greater sage-grouse. As of December 2013, all of the Draft EISs for the land use plan revisions for planning units within Western Association of Fish and Wildlife Agencies (WAFWA) Zone II (see Section 4.10.1 of the Final EIS) have been released. Seventy percent of WAFWA Zone II is in the State of Wyoming. All of these plans included analysis of the information contained in the Conservation Objectives Team Report. All of the drafts contain a Preferred Alternative that incorporates greater sage-grouse conservation approaches that are almost identical to those that are contained in the Lander Proposed RMP.

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
5353 Yellowstone Road, Suite 308A
Cheyenne, Wyoming 82009

In Reply Refer To:
06E13000/WY12CPA0134, WY12CPA0143, and WY12CPA0151

OCT 25 2012

Memorandum

To: State Director, Bureau of Land Management, State Office, Cheyenne, Wyoming

From: Field Supervisor, U.S. Fish and Wildlife Service, Wyoming Field Office, Cheyenne, Wyoming

Subject: Clarification of Service Comments on the Lander, Bighorn Basin, and Buffalo Resource Management Plan Revision Conformance Review for the Greater sage-grouse National Technical Team Report

This memorandum is intended to provide clarification of the U.S. Fish and Wildlife Service's (Service) recent memorandums regarding the Lander, Bighorn Basin, and Buffalo Resource Management Plan (RMP) Revision Conformance Review for the Greater sage-grouse (sage-grouse) National Technical Team (NTT) Report. During June and July 2012, the Service received a request from the Lander, Worland (Bighorn Basin), and Buffalo field offices to provide formal written comments to the Bureau of Land Management (BLM) regarding the BLM's conformance to the NTT report. Within our response memorandums (referenced WY12CPA0134, WY12CPA0143, and WY12CPA0151, respectively), the Service, as requested, listed a number of examples where the proposed plans for the Lander, Bighorn Basin, and Buffalo RMP Revisions were not consistent with the direction of the NTT report. Because the Service favors the most extensive conservation measures possible to protect the Greater sage-grouse (*Centrocercus urophasianus*), the Service expressed preference for the "Conservation Alternative" present in these proposed plans. The Service realizes, however, that the BLM must balance conservation for sage-grouse with their multiple-use objectives for land management. The Service also realizes that, to date, the BLM has undertaken extensive proactive planning efforts to provide protective measures for sage-grouse in all of the RMPs in Wyoming statewide. Specifically, the BLM has been working towards implementing the Wyoming Core Area Strategy as developed by numerous partners across Wyoming with the intention of conserving sage-grouse.

Although the Service continues to prefer the conservation alternative for these RMPs, as it offers the most extensive conservation possible, the Service is pleased with the attempts of the BLM to adopt the Wyoming Core Area Strategy and incorporate it into their RMPs statewide. The Service believes the Wyoming Core Area Strategy can result in the long-term conservation of the sage-grouse in this state; thus, contribute to reducing the need to list the species range-wide under the Endangered Species Act. As you are well aware, actions outside of BLM-administered land in the range of sage-grouse may influence any final listing decision. However, implementation of the Wyoming Core Area Strategy will represent a significant effort that the BLM in Wyoming can implement to conserve the sage-grouse.

The Service appreciates the BLM sharing the *Wyoming Sage-Grouse Management Comparison and Explanation for Wyoming BLM Proposed Plan Related to Recommendations from the National Technical Team (NTT) Report Table*. The table provides clarification and rationale for deviations from the NTT that the Service had commented on in the proposed plan, and it also correspondingly reflects that the BLM remains in line with the Wyoming Core Area Strategy.

We believe the Wyoming Core Area Strategy, along with the guidelines outlined by the Implementation Team and the Inter-agency Implementation working subgroup, is a sound policy framework by which to conserve sage-grouse in Wyoming. As stated in our March 23, 2010, status determination for the sage-grouse (Decision; 75 FR 13910), "the Service believes that the core area strategy … if implemented by all landowners via regulatory mechanisms, would provide adequate protection for sage-grouse and their habitat in that State." This is a critical point and remains true for the Wyoming Core Area Strategy. To be effective, State, Federal and private landowners must all implement the Wyoming Core Area Strategy.

Implementation of the Wyoming Core Area Strategy will need to keep current with the best available science in order to meet the information requirements of the Act (section 4(b)(1)(A)). This may include incorporation of other important seasonal habitats into core areas as they are identified. While we support the development of local solutions to address the protection of seasonal habitats as they are identified, these local solutions must be based on sound scientific data. It is also critical that the protections for seasonal habitats address the real conservation concerns for these potentially limiting habitat areas. Additionally, local solutions need to have mechanisms to ensure they will in fact be implemented, for example be regulatory in nature to the extent practicable.

The Service encourages the BLM to continue to actively advocate for sage-grouse conservation, and perhaps more importantly, healthy sagebrush ecosystems, going beyond the Wyoming Core Area Strategy guidelines where possible. We understand the proactive conservation efforts that you have undertaken regarding the decision to execute the Wyoming Core Area Strategy. We recognize that the conservation of sage-grouse will involve difficult choices in prioritizing management objectives for a variety of needs within Wyoming. While we do not advocate for elimination or preclusion of any activity, we do encourage the BLM and project proponents to consider all alternatives that minimize or remove impacts to the sagebrush ecosystem. We offer our assistance in these efforts, if desired. Additionally, we encourage the BLM to continue to be active participants in the decision-making processes conducted by land managers in Wyoming, including State agencies, which affect sage-grouse and sagebrush. We recognize the BLM's expertise in sage-grouse and encourage use of that expertise to inform these planning processes.

In summary, the Service believes the Wyoming Core Area Strategy, if fully supported and implemented, could ameliorate many threats to the sage-grouse in Wyoming. We fully recognize and appreciate your commitment and financial obligation to this important conservation effort. This long-term, science-based vision for the conservation of sage-grouse has set the stage for similar conservation efforts across the species' range, a notable feat onto itself.

We look forward to continuing to work with the BLM in Wyoming on sage-grouse conservation. The Service again commends the BLM's leadership for your proactive and insightful efforts and your commitment to the long-term conservation of this species.

If you have any questions regarding the information provided here, please do not hesitate to contact me at 307-772-2374 or Alex Schubert of my staff at extension 238.

cc: BLM, Planning & Environmental Coordinator, Lander, WY (K. Yannone)
BLM, Natural Resource Specialist, Buffalo, WY (T. Bills)
BLM, Planning & Environmental Coordinator, Worland (C. Hiner)
WGFD, Statewide Habitat Protection Coordinator, Cheyenne (M. Flanderka)
WGFD, Non-Game Coordinator, Lander (B. Oakleaf)

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Appendix N. Monitoring and Evaluation Plan

N.1. Introduction

This appendix provides an overview of the Lander Field Office monitoring and evaluation protocol. Not only is it important to evaluate the implementation and effectiveness of management but changing conditions may require re-evaluation of the decisions in the Resource Management Plan (RMP). The Bureau of Land Management (BLM) has identified intervals and standards to evaluate and track the implementation of decisions and determine the effectiveness of management in meeting the desired goals and objectives. It is through this evaluation that the BLM will determine if the decisions remain relevant, require modification, and/or require new decisions.

Due to staffing and funding levels, monitoring will be prioritized consistent with the goals and objectives of the RMP in cooperation with local, state, and other federal agencies. Some of the RMP decisions establish priorities, such as to “prioritize rangeland health assessments in greater sage-grouse Core Area and areas with degraded riparian systems.” In other cases, management priorities need to be established based on the results of monitoring and evaluation and changing conditions. This protocol is an initial approach to establishing a system to regularly collect, coordinate and distribute monitoring data collected by the BLM and other federal and state agencies. Changes to monitoring methods and timeframes may result from developing technologies or a better understanding of information.

N.2. Data Collection

In cooperation with local, state and other federal agencies, the BLM will collect, analyze, and share monitoring data that allows for the determination of cause and effect, conditions, trends and predictive modeling of land use authorizations. Monitoring methods are implemented to collect data that establish current conditions and reveal any change in the indicators. Monitoring techniques consider *when*, *where*, and *frequency*. The data collected through monitoring provide a variety of information applicable to one or more resource uses. To increase effectiveness, efficiency, and eliminate duplication, monitoring methods should be designed to address as many uses as possible. The BLM will rely upon cooperating agencies and other parties for funding, facilities, and labor to assist in or perform this data collection.

N.3. Data Analysis

Data will be analyzed to determine the change that has occurred as a result of implementation of the decisions. Data analysis will be conducted on a predetermined schedule that considers the data collection frequency for detecting change. Data will also be recorded and organized to facilitate analysis to be used in assessing future decisions. Analyzed data will be assessed to determine: whether the resource conditions are meeting the planned goals; whether a change has occurred, and if so, identify the cause; and what appropriate action should be taken to achieve the desired outcome if the objective is not being met. New technology and management methods will be reviewed to determine their applicability in modifying or replacing current decisions. The BLM will again rely upon cooperating agencies for funding, facilities, and labor to assist in or perform this data analysis.

N.4. Management Response

When monitoring data indicate that RMP goals/objectives are not being achieved, the causes of non-achievement will be documented and recommendations identified for changes in on-the-ground management to achieve the goal/objective. If monitoring indicates that changes or modifications of RMP decisions are necessary, changes may require an RMP amendment. Changes in decisions may require changes in the monitoring plan; therefore, the change will also evaluate the effectiveness of the monitoring and data collection methods and recommend continued use, modification, or elimination of those methods.

While the approach to be taken in response to monitoring will vary by resource, a common decision path will be taken. In general, this approach will be in the following order:

- Evaluate the data. Do they indicate a trend, unique situation, or other extraordinary circumstances?
- Do the monitoring results indicate that BLM management is a contributing factor to the results?
  - If not, should BLM management be reevaluated in light of the changed circumstances?
- If BLM management is a contributing factor, has RMP identified management been implemented?
  - If not, should the implementation schedule and order of priority be revised?
- If management has been implemented, does the RMP provide sufficient latitude to adjust management to alter the situation?
  - Consider more BLM activities in implementing the decision such as additional compliance monitoring.
  - Can cooperation with partners, landowners and other entities address the issues?
  - Additional responses unique to each resource and program will be identified during implementation.
- Do the decisions in the RMP need to be amended to provide for other land use authorizations or management prescriptions?

N.5. Establishment of Monitoring Protocols

Monitoring is the process of tracking the implementation of land use planning decisions (implementation monitoring) and collecting data/information necessary to evaluate the effectiveness of land use planning decisions (effectiveness monitoring) (BLM 2002).

Implementation of this RMP should be a dynamic, iterative process based on monitoring. Monitoring is important because it provides links to adaptive management and modification of plan decisions to incorporate information on effectiveness in light of changing conditions. Ongoing data collection is an essential component of the implementation of a land use plan.

The establishment of monitoring protocols will follow BLM program specific policy and, where appropriate, will incorporate the following general seven step principles (see, for example, the *Regional Framework for Water-Resources Monitoring Related to Energy Exploration and Development* [USGS 2007]). Those steps are:

1. Specify monitoring goals and objectives.
2. Characterize anthropogenic stressors that may affect receptors and parameters of interest.
3. Develop regional questions and conceptual models to describe the process and pathways by which anthropogenic stressors may affect receptors.

4. Suggest indicators to measure the effects of anthropogenic stressors, and define existing information availability and needs.
5. Estimate the sensitivity of the indicators to detect change, to guide final indicator choice and monitoring design.
6. Describe a process by which management can identify thresholds of change requiring a management response, as indicated by causal factors.
7. Where appropriate, identify clear connections between the overall monitoring program and management decision process.

N.6. Greater Sage-Grouse Specific Monitoring

Habitat (Disturbance) Monitoring

Many of the decisions in this land use plan are in response to *Factor A: The Present or Threatened Destruction, Modification, or Curtailment of Habitat or Range* in the U.S. Fish and Wildlife Service's (USFWS's) 2010 listing decision for greater sage-grouse (USFWS 2010). See also the *Summary of Science, Activities, Programs, and Policies That Influence the Rangewide Conservation of Greater Sage-Grouse*, U.S. Geological Survey Open-file Report 2013–1098 (Manier et al. 2013). These documents identified several "threats" affecting Factor A; therefore the BLM will monitor the relative extent of these threats on sagebrush, both spatially and temporally, to report on conditions at the appropriate and applicable geographic scales and boundaries. These threats, listed below, include activities that are not authorized by this RMP. They are included to facilitate cross-jurisdictional collection of data to address threats on a landscape scale (across greater sage-grouse Management Zone II, see *Summary of Science, Activities, Programs, and Policies That Influence the Rangewide Conservation of Greater Sage-Grouse* [Manier et al. 2013] at page 6):

1. Agriculture (habitat conversion to agriculture is not authorized by this RMP)
2. Urbanization (not authorized by this RMP)
3. Habitat treatments
4. Wildfire
5. Invasive plants
6. Conifer encroachment
7. Energy (oil and gas wells and development facilities)
8. Energy (coal mines [not authorized by this RMP])
9. Energy (wind towers)
10. Energy (solar fields [not authorized by this RMP])
11. Energy (geothermal)
12. Mining (active developments; locatable, leasable, and salable)
13. Infrastructure (roads)
14. Infrastructure (railroads [not authorized by this RMP, but active and abandoned are present in the planning area])
15. Infrastructure (powerlines)
16. Infrastructure (communication towers)
17. Infrastructure (other vertical structures)
18. Other developed rights-of-ways

Cumulative disturbance monitoring will aggregate these 18 threats into the following three general measures:

1. Percent of sagebrush per unit area
2. Percent of non-habitat (human footprint) per unit area
3. Number of energy facilities and mining locations per unit area (density)

Habitat (Vegetation) Monitoring

The current geographic extent of sagebrush vegetation within the rangewide distribution of greater sage-grouse populations will be ascertained using the most recent version of the Existing Vegetation Type layer in LANDFIRE (2006). LANDFIRE Existing Vegetation Type was selected to serve as the base sagebrush layer for five reasons: 1) it is the only nationally consistent vegetation layer that has been updated since 2001; 2) the ecological systems classification includes multiple sagebrush type classes that, when aggregated, provide more accurate (compared to individual classes) and seamless sagebrush base layer across jurisdictional boundaries; 3) LANDFIRE performed a vigorous spatial accuracy assessment from which to derive the rangewide uncertainty of the base map; 4) LANDFIRE Existing Vegetation Type can be compared against the geographic extent of land that has the capability to support sagebrush vegetation using LANDFIRE Biophysical Setting to provide a reference point for understanding how much sagebrush can be supported in a defined geographic area; and 5) LANDFIRE is consistently used in several recent analyses of sagebrush habitats (Knick and Connelly 2011; Leu and Hanser 2011; Knick and Hanser 2011). Therefore, the BLM has determined that LANDFIRE provides the best available data at broad and mid scales to serve as an initial base layer for monitoring habitat characteristics and by which disturbance changes are measured, incorporated, and reported. Along with the aggregated sagebrush base map, the BLM will aggregate the accuracy assessment reports from LANDFIRE to document the cumulative accuracy for our final base map. Looking at the long term, the BLM through its assessment, inventory and monitoring program and specifically the Landscape Monitoring Framework, will provide field data to the LANDFIRE program to support overall accuracy improvements in their products.

In isolated areas, existing vegetation classification mapping and inventories are available that provide a much finer level of data than are provided through LANDFIRE. Where available, these products are useful below the mid scale for establishing baseline conditions for monitoring. The fact that they are not available everywhere, however, limits their utility for monitoring at the broad and mid scale where consistency of data products is necessary regardless of land ownership.

The BLM is improving the quality of vegetation map products for broad- and mid-scale analyses through the Grass/Shrub mapping effort in partnership with the Multi-Resolution Land Characteristics Consortium. The Grass/Shrub mapping effort applies the Homer et al. (2009) methodology to spatially depict fractional percent cover estimates for four components range-wide and throughout the West. These four components are the percent cover of sagebrush vegetation, percent bare ground, percent herbaceous vegetation (grass and forbs combined), and percent shrubs. One of the benefits of the design of these fractional cover maps is that they facilitate monitoring “with-in” class variation. This “with-in” class variation can serve as one indicator of sagebrush quality that the BLM cannot derive from vegetation type information from LANDFIRE.

The base sagebrush layer, whether derived from LANDFIRE or the Grass/Shrub mapping effort, will allow for estimation of mid-scale indicators, for example, patch size and number, patch connectivity, linkage areas, and landscape matrix and edge effects (Stiver et al. 2010). The actual methods used to calculate these metrics will be derived from existing literature (Knick and Connelly 2011; Leu and Hanser 2011; Knick and Hanser 2011). Disturbance updates, generated annually, will be included in the base layer and the landscape metrics will be recalculated to examine changes in pattern and abundance of sagebrush at the various geographic boundaries. The appropriate geographic boundaries for this base layer include the range, management zone, population, subpopulation, and Core Area. Other data sources would need to be used to report landscape metrics any finer than Core Area.

The sagebrush base layer and disturbance data provide the ability to calculate landscape metrics as one element of habitat monitoring at the broad and mid scales. Habitat quality, however, will be monitored using field data collected with a statistically valid sampling design. These efforts can quantify indices such as percent annual grasses, species composition, sagebrush height, and bare ground at the Core Area scale with known error estimates that are continually reduced as more data are collected. Point data will also be used to enhance the accuracy and precision of the Shrub/Grass mapping product. This product can in turn provide additional information about habitat quality at the mid scale. Long-term, the BLM will be able to provide a suite of monitoring metrics for Core Area and larger scales that will provide a comprehensive view of sagebrush and greater sage-grouse habitat condition when combined with population data supplied by the states.

To accomplish disturbance monitoring, the BLM will begin with this base layer of sagebrush. Restored areas will also be considered when evaluating the percentage of sagebrush on the landscape.

Next, the BLM will use the best available range-wide data (external and/or internal data) to evaluate man-made and natural disturbances (direct physical footprint) of greater sage-grouse habitat based on Factor A threats. The *Summary of Science, Activities, Programs, and Policies That Influence the Rangewide Conservation of Greater Sage-Grouse* (Manier et al. 2013) provided a baseline collection of datasets across jurisdictions where available; however for some threats, the data were for federal lands only. Most of the data used in the *Summary of Science, Activities, Programs, and Policies That Influence the Rangewide Conservation of Greater Sage-Grouse* (Manier et al. 2013) were from external data sources; therefore, the BLM will use the most currently available versions to evaluate changes (additional footprints) from the baseline dataset. A subset of these data (for example fire perimeters, mine and energy sites), provided by BLM field and state offices and other land managers, will be updated and reported to agency headquarters annually. The BLM will report the change in footprints for each of the 18 threats as well as cumulatively, for the three general measures described previously.

Population (Demographics) Monitoring

State wildlife management agencies are responsible for monitoring greater sage-grouse populations within their respective states. The BLM has initiated a process to establish that the Western Association of Fish and Wildlife Agencies (WAFWA) will coordinate collection of annual population data by state agencies. To establish certainty that the data will be provided to the BLM and other land managers, the existing memorandum of understanding signed by the WAFWA, the BLM, the U.S. Forest Service, the Natural Resources Conservation Service, and the USFWS (BLM 2011b) could be revised to outline collaboration, process, and responsibilities for data analysis and transfer related to management of greater sage-grouse. Population data will be used for analysis at the applicable scale to supplement habitat effectiveness monitoring of decisions.

Effectiveness Monitoring

The BLM will analyze the monitoring data to characterize the relationship among the disturbance, implementation actions, and habitat condition at the appropriate and applicable geographic scale or boundary to accomplish effectiveness monitoring of greater sage-grouse for the Approved

RMP. This will involve evaluating the change in habitat conditions from the baseline conditions in relation to the goals and objectives of the plan and other rangewide conservation strategies (BLM 2004a; Stiver et al. 2006; USFWS 2013). When available from the WAFWA and/or state wildlife agencies, effectiveness monitoring can be supplemented with population trends (taking into consideration the lag effect response of populations to habitat changes [Garton et al. 2011]). The compilation of broad and mid scale data (and population trends as available) will be on a 5-year reporting schedule or as needed to respond to emerging issues. In addition, effectiveness monitoring will be used to identify emerging issues and research needs and will be consistent with and inform the BLM adaptive management strategy (see the adaptive management discussion in Section 2.4.3, *Monitoring*, in the Approved RMP).

Fine and Site Scales

Third order habitat selection at the fine scale describes the physical and geographic area within home ranges. At this level, maps of seasonal habitats (breeding, summer, and winter) and the connectivity between these seasonal use areas can be examined to determine limiting factors for populations, subpopulations, and Core Area. The Wyoming Density and Disturbance Calculation Tool (http://ddct.wygisc.org) is a type of fine-scale analysis.

Fourth order habitat selection at the site scale is based on physical conditions and the geographic area within seasonal ranges to meet life requisite needs (e.g., nesting and brood rearing). Specific habitat measures are used at this scale as microsite conditions within the seasonal range to determine distribution and use. These measures are typically sampled across a defined area to inform third order habitat selection.

Details and application of monitoring at these two scales will be determined during implementation of the Lander Approved RMP. The need for fine- and site-scale specific habitat monitoring will vary by area depending on proposed projects, existing conditions, habitat variability, threats, and land health. For example, implementation monitoring will track decisions in Core Area; habitat vegetation monitoring will be conducted to evaluate projects targeting greater sage-grouse habitat enhancement and/or restoration; habitat disturbance monitoring will be conducted where mid-scale monitoring indicates the need for fine-scaled man-made disturbance footprints; and population monitoring (in cooperation with state wildlife agencies) will be analyzed below the subpopulation level where needed for more specific effectiveness monitoring.

Habitat indicator data collected at the fine and site scales will be consistent with the Habitat Assessment Framework and information provided in the greater sage-grouse guidelines (Connelly et al. 2000) as well as the core indicators in the assessment, inventory and monitoring strategy (Toevs et al. 2011), and monitoring techniques. However, the *metrics* for quantifying the indicators can be adjusted for local conditions. If local adjustments to metrics are made, the adjustments will be appropriate to the floristic province/greater sage-grouse management zone where the data were collected and reflect local plant productivity and greater sage-grouse habitat data collected within the area. In short, adjustments will be science-based (i.e., predicated on data collected locally and published in a peer-review outlet) and ecologically defensible (i.e., generally supported by the broad base of knowledge on sagebrush and greater sage-grouse provided in the peer-review literature). When evaluating the land health habitat standard in designated greater sage-grouse habitats, the BLM will analyze core indicators and other supplemental site scale greater sage-grouse habitat indicators (see the Habitat Assessment Framework) as appropriate for the seasonal habitat. The activity level plans will describe a sampling scheme for collecting indicators with a non-biased sampling design for vegetation treatments or management actions implemented at the site scale. In addition, the consistent collection of these data will be used to inform the classification and interpretation of imagery and habitat quality at the mid scale as described above.

N.7. Resource Monitoring Table

The information in the following table will be updated based upon additional information received including comments from the public.

Table N.1, “Resource Monitoring Table” (p. 363) identifies the indicator that will be monitored to detect changes in resource conditions; the method or technique of monitoring; the locations for monitoring; the unit of measurement for monitoring; the frequency for monitoring; and the action triggers that indicate the effectiveness of the management action. Footnotes in Table N.1, “Resource Monitoring Table” (p. 363) indicate where monitoring is generally conducted by stakeholders or cooperating agencies.

Table N.1. Resource Monitoring Table

Resource	Record Number	Indicator	Method or Technique	Location	Unit of Measure	Frequency	Action Triggers
Physical Resources							
Air Quality[1]	Air-1	Air quality	Ambient air sampling and air quality modeling	Established monitoring stations	Parts per million	Hourly to 24-hour samples in accordance with standards	Samples exceeding National Ambient Air Quality Standards
	Air-2	Gaseous and particulate critical air pollutants	Emission inventory	Established monitoring stations	Pounds per hour and tons per year	Annually	Samples exceeding Ambient Air Quality Standards or levels of concern
	Air-3	Greenhouse gases and contributors to climate change, such as soot	Emission inventory	Established monitoring stations	Pounds per hour and tons per year	Annually	Samples exceeding Ambient Air Quality Standards or levels of concern

Resource	Record Number	Indicator	Method or Technique	Location	Unit of Measure	Frequency	Action Triggers
Soil	Soil-1	Soil erosion uplands	Visual observation and surveyed erosion pins	Area wide where land use activities are occurring	Soil loss in tons per acre	Visual examination while land use activity is active and annual site surveys	When soil loss is accelerated beyond natural levels
	Soil-2	Soil erosion on stream banks and floodplains	Visual observation and surveyed erosion pins	Area wide where land use activities are occurring	Area affected in square feet or acres	Visual examination while land use activity is active and annual site surveys	Water table is shrinking beyond average precipitation fluctuations
	Soil-3	Soil compaction	Penetrometer or visual inspection	Area affected by land use activities	Pounds per square inch	Every 5 to 10 years	Compaction restricts water infiltration and plant growth
	Soil-4	Reclamation	Site inspection and vegetation sampling	Areas authorized for disturbance; areas requiring reclamation	As identified in reclamation and/or mitigation plans	As identified in reclamation and/or mitigation plans	Reclamation not meeting targets identified in reclamation and/or mitigation plans
Mineral Resources							
Minerals	Minerals-1	Surface disturbance	Remote sensing or site inspection	Mineral development sites	Acres disturbed	Annually	Acres disturbed exceeding the range established for the area
	Minerals-2	Compliance with authorization	Area inspection	Area wide	Compliance	During operations or annually	Non-compliance
	Minerals-3	Reclamation	Remote sensing or site inspection	Mineral development sites	Acres reclaimed	During operations or annually	Acres not meeting reclamation objectives
Fire and Fuels Management							

Resource	Record Number	Indicator	Method or Technique	Location	Unit of Measure	Frequency	Action Triggers
Fire	Fire-1	Fuels treatment	Site inspection	Area wide	Acres	Annually	Presence of fire fuels that present a risk within the wildland–urban interface and highly valued landscapes
	Fire-2	Wildlfire	Site inspection	Wildland-urban interface and as fires occur area wide	Acres	In response to fire incidents	Disturbances as a result of fire suppression
	Fire-3	Vegetation condition	Ecological site condition and trend studies	Vegetation types where there is a history of fire in the ecosystem	Representative sample	Annually	Vegetation growth trend is moving away from desired condition and class for the vegetation type
	Fire-4	Resource and property damage	Fire behavior	Individual fire	Fire severity and intensity, flame length, burn rate, and acres burned	While the fire is burning	Acres burned and fire intensity that exceed prescription
Biological Resources							
Vegetation	Vegetation-1	Precipitation[1]	Weather stations	Representative sample to detect precipitation patterns	Inches of precipitation	Monthly and annually	Precipitation incompatible with meeting desired conditions set forth in management action 4032
	Vegetation-2	Climate[1]	Weather stations	Representative sample to detect patterns	Degrees	Monthly and annually	Temperatures incompatible with meeting desired conditions set forth in management action 4032
	Vegetation-3	Meeting Wyoming Standards for Healthy Rangelands	Standards Assessments	Allotments	Wyoming Standards for Healthy Rangelands	Every 10 years or more	Not meeting one of the standards.

Resource	Record Number	Indicator	Method or Technique	Location	Unit of Measure	Frequency	Action Triggers
Forestry	Forestry-1	Forest Health	Ecological site condition and trend	Forested lands	Representative sample area	Every 3 to 5 years	Disease, insect infestation, or encroachment of undesirable plant species threatens forest health
	Forestry-2	Timber stands	Timber stand examination	Commercial forested areas	Board feet, age class, and damages	Every 10 to 20 years	Basal area growth does not meet timber type standards
	Forestry-3	Forest Health	Extent of pine beetle infestation	Forested lands	Acres of disease	Every 3 to 5 years	Aerial photography showing expansion of insect infestation
Invasive Species	INNS-1	Invasive plant trends[4]	Remote sensing or site visit	Priority areas	Acres of established weeds and potential habitat areas	Annually	Spreading or establishment of invasive species in new areas
Riparian-Wetland Areas	Riparian-1	Riparian-wetlands condition	Proper functioning condition	Priority riparian-wetlands areas	Stream miles and acres along with rating	Every 5 to 10 years, or more frequently as warranted	Not achieving proper functioning condition or not exhibiting an upward trend
	Riparian-2	Channel geometry	Riparian-wetlands cross sections	Priority streams	Change in stream channel (width, depth, side channel modification, and bank sloughing)	Every 5 to 10 years	Conditions are moving away from proper functioning condition

Resource	Record Number	Indicator	Method or Technique	Location	Unit of Measure	Frequency	Action Triggers
Fish and Wildlife	Wildlife-1	Big game crucial winter and parturition habitat	Aerial and field inspections; GIS mapping; project tracking spreadsheet	Area wide	Percent of total acres of crucial winter range and parturition habitat that are lost or unavailable	Every 2 to 5 years or annually if cumulatively more than 5 percent of total acres are lost (BR:8.1)	Large-scale projects authorized in crucial winter range and parturition habitats
	Wildlife-2	Big game migration	Site visit and GIS mapping	Identified migration corridors	Numbers of fences	Every 2 to 5 years	Big game entanglement and/or mortality resulting from fences; fences authorized across migration corridors
	Wildlife-3	Raptors	Site visit	Area wide	Nest occupancy rate	Every 2 to 5 years	Declining trend in nest site occupancy
	Wildlife-4	Neo-tropical bird habitat	Aerial and field inspections	Area wide	Acres of habitat altered or lost	As determined by WGFD	Declining trend in habitat occupancy
Special Status Species – Fish and Wildlife Additional monitoring of greater sage-grouse will be developed during implementation, as described above.	Special Status Species-1	Special status species occupancy and productivity	Aerial and field inspections	Habitat areas and established buffer zones	Numbers during occupancy periods	Annually	A decline in numbers beyond normal population fluctuations
	Special Status Species-2	Macroinvertebrate species	Standard macroinvertebrate sampling methods	Yellowstone cutthroat trout, burbot, and sauger streams	Numbers of macroinvertebrates	Every 5 years or as determined by WGFD	A decline in number of macroinvertebrate species and populations beyond normal fluctuations
	Special Status Species-3	Grizzly bears	Livestock conflict reports	Occupied grizzly bear habitat	Numbers of conflicts in livestock grazing allotments	Annually	An increase in the yearly average number of conflicts and subsequent grizzly bear removals
	Special Status Species-4	Greater sage-grouse	Lek counts and/or surveys; brood surveys	Greater sage-grouse habitat	Number of male and females	Annually	A decline in numbers beyond normal population fluctuations

Resource	Record Number	Indicator	Method or Technique	Location	Unit of Measure	Frequency	Action Triggers
Special Status Species – Plants	Plants-1	Special status plant species	Site inspection and population census	Habitat for special status plants	Population and trend; acres	Annually	A declining trend in populations and loss of habitat
Wild Horses	Wild Horses-1	Vegetation condition	Visual observation and rangeland health assessments	Herd management areas	See Grazing	Every 10 years	Vegetation not meeting rangeland health standards
	Wild Horses-2	Horse numbers	Population counts	Herd management areas	Herd numbers	Every 2 to 3 years	Horse numbers not within appropriate management level
	Wild Horses-3	Horse body condition	Visual observation	Herd management areas	Horse condition	Every 2 to 3 years during gathers	Horse condition not achieving a Henneke Body Score (see Glossary) of at least 3 (Easley 2009)
	Wild Horses-4	Actual Use (livestock and/or horses)	Grazing bills and population estimates	Herd management areas	AUMs consumed	Annually	Increase in forage utilization of uplands and riparian-wetland areas
	Wild Horses-5	Precipitation	Rain gauge	Herd management areas	Volume	Annually	Standard Operating Procedure
	Wild Horses-6	Pellet Counts	Transect technique	Herd management areas	Volume and distribution	Annually/ Biannually	Horse use in riparian-wetland areas
	Wild Horses-7	Distribution	Visual observation	Herd management areas	Location of bands	Annually	Horse population may or may not be within appropriate management level
	Wild Horses-8	Concentration areas	Visual observation	Herd management areas	Location and number of animals	Annually	Horse population may/may not be within appropriate management level
Heritage Resources							

Resource	Record Number	Indicator	Method or Technique	Location	Unit of Measure	Frequency	Action Triggers
Cultural[2]	Cultural-1	Selected National Register eligible sites	Site inspection	Area wide	Disturbance	Annually	Disturbance as a result of land uses, natural processes, or vandalism
	Cultural-2	Congressionally Designated Trails	Site inspection	National Trails Management Corridor	Disturbance	Annually	Disturbance as a result of land uses or natural processes, including authorized visitation, erosion, or vandalism
Paleontology	Paleo-1	Selected significant paleontological resources	Site inspection	Site	Degradation or loss of significant fossil resources	Annually	Loss or damage to significant fossil resources as a result of human or natural causes

Resource	Record Number	Indicator	Method or Technique	Location	Unit of Measure	Frequency	Action Triggers
Visual Resource Management	VRM-1	Visual quality	Scenic quality rating form	Entire Lander Field Office	Visual quality rating	Conduct visual quality rating updates in at least 15 Scenic Quality Rating Units every 5 years.	Change in scenic quality from original inventory
	VRM-2	Visual sensitivity	Public input and sensitivity-level rating form	Entire Lander Field Office	Sensitivity level rating	Update sensitivity-level ratings every 15 years	Change in visual sensitivity
	VRM-3	Distance zones	Mapping buffer distances from important observation points as described in VRM manual	Entire Lander Field Office	Distance	Update distance zone ratings when an important public observation feature (such as a new recreation facility or highway) is not captured by the existing data	Change in field office distance zones
	VRM-4	Cumulative impact of project-induced contrast	Contrast rating form and scenic quality rating form	Key observation points within VRM Classes I and II, where one or more project(s) has resulted in a contrast level of weak or above	Cumulative contrast and human modifications rating of the scenic quality form	During project evaluations	Cumulative project contrast exceeds visual resource management objective for the key observation point and/or results in substantial change to the visual quality of the impacted scenic quality rating unit
Land Resources							

Resource	Record Number	Indicator	Method or Technique	Location	Unit of Measure	Frequency	Action Triggers
Lands and Realty	Realty-1	Realty authorization compliance	Site compliance inspection	Area wide	Number of site inspections	Annually	Non-compliance or non-use
	Realty-2	Trespass	Site compliance inspection	Area wide	Number of trespass notices	Annually	Identification of use of BLM-administered lands without authorization
ROWs and Corridors	Realty-3	Reclamation	Site inspection	Area wide	Number of site inspections	Annually	Inadequate reclamation

Resource	Record Number	Indicator	Method or Technique	Location	Unit of Measure	Frequency	Action Triggers
Travel Management	Travel-1	Road and trail damage	Onsite inspection	Area wide	Miles	Annually, following the 5-year Condition Assessment Plan	Conditions represent a hazard to life and property, is resulting in resource damage, and/or does not meet one or more planning objectives
	Travel-2	Effectiveness of travel closures and seasonal limitations	Aerial and field inspections	Area wide	Documented occurrence of illegal travel in a closed or seasonally closed area	Annually	When closures or seasonal limitation are deemed ineffective (e.g. continuous illegal travel) or no longer necessary to protect the benefitting resource
	Travel-3	Travel management plans implemented	Implementation tracking	Entire Lander Field Office	Number of completed and implemented travel management plans	yearly	When travel management plan timelines, contained in the Lander Proposed RMP and Final EIS are not met. Timelines will be adjusted and a justification will be written to document why the timelines were not met.

Resource	Record Number	Indicator	Method or Technique	Location	Unit of Measure	Frequency	Action Triggers
	Travel-4	Specific monitoring indicators will be further developed through implementation planning and documented in the travel management plans for each area	Specific monitoring methods will be further developed through implementation planning and documented in the travel management plans for each area	Specific monitoring locations will be further developed through implementation planning and documented in the travel management plans for each area	Specific monitoring measures will be further developed through implementation planning and documented in the travel management plans for each area	Specific monitoring frequencies will be further developed through implementation planning and documented in the travel management plans for each area	Specific action triggers will be further developed through implementation planning and documented in the travel management plans for each area

Resource	Record Number	Indicator	Method or Technique	Location	Unit of Measure	Frequency	Action Triggers
Livestock Grazing and Rangeland Health	Grazing-1	Standards and Guidelines Conformance Review	BLM-approved monitoring methods; monitoring plans are included in Allotment Management Plans and/or Grazing Permits	All areas being grazed	Representative sample of grazed area	Every 10 years On a priority basis, monitor allotments before livestock turnout	Conditions are not meeting goals and objectives for vegetation and do not meet the Wyoming Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management
	Grazing-2	Vegetation Frequency	BLM-approved monitoring methods; monitoring plans are included in Allotment Management Plans and/or Grazing Permits	All areas being grazed	Representative sample of grazed area	Every 3 to 5 years On a priority basis, monitor allotments before livestock turnout	Decline in the number of key species outside the range of variability appropriate for the ecological site
	Grazing-3	Vegetation Cover	BLM-approved monitoring methods; monitoring plans are included in Allotment Management Plans and/or Grazing Permits	All areas being grazed	Representative sample of grazed area	Every 3 to 5 years On a priority basis, monitor allotments before livestock turnout	Increase in the percentage of bare ground and a decline in the percentage of overall cover
	Grazing-4	Vegetation Density	BLM-approved monitoring methods; monitoring plans are included in Allotment Management Plans and/or Grazing Permits	All areas being grazed	Representative sample of grazed area	Every 3 to 5 years On a priority basis, monitor allotments before livestock turnout	Decline in the density of key species outside the range of variability appropriate for the ecological site

Resource	Record Number	Indicator	Method or Technique	Location	Unit of Measure	Frequency	Action Triggers
	Grazing-5	Vegetation Production	BLM-approved monitoring methods; monitoring plans are included in Allotment Management Plans and/or Grazing Permits	Representative key ecological sites within the Lander Field Office	Number of production plots	Annually	Standard Operating Procedure
	Grazing-6	Vegetation Structure	BLM-approved monitoring methods; monitoring plans are included in Allotment Management Plans and/or Grazing Permits	Critical wildlife habitats	Representative sample of critical habitats	Every 5 to 10 years	Decline in vertical structure outside the range of variability appropriate for the ecological site
	Grazing-7	Vegetation Composition	BLM-approved monitoring methods; monitoring plans are included in Allotment Management Plans and/or Grazing Permits	All areas being grazed	Representative sample of grazed area	Every 3 to 5 years On a priority basis, monitor allotments before livestock turnout	Decline in percentage of key species outside the range of variability appropriate for the ecological site
	Grazing-8	Riparian-wetlands condition	BLM-approved monitoring methods: monitoring plans are included in Allotment Management Plans and/or Grazing Permits	All areas being grazed	Representative sample of critical areas grazed	Variable, dependent on technique. Annually or every 3 to 5 years, or more frequently as warranted	Decline in percentage of key stabilizer species, woody vegetation (where appropriate), and riparian-wetlands obligate species outside the appropriate range of variability appropriate for the ecological site

Resource	Record Number	Indicator	Method or Technique	Location	Unit of Measure	Frequency	Action Triggers
	Grazing-9	Precipitation	Rain Gauges	BLM rain gauges representative sample to detect precipitation patterns	Inches of precipitation and percentage of normal	Monthly and annually	Standard Operating Procedure
	Grazing-10	Range infrastructure condition	Visual Observation	All range improvement projects in the Lander Field Office	Number of range improvement projects inspected on priority grazing allotments	Annually	Failure to maintain range improvement infrastructure to a functional state
	Grazing-11	Forage utilization	Utilization study plot or site visit; monitoring plans are included in Allotment Management Plans and/or Grazing Permits	Priority Allotments or as needed	Representative sample of grazed area	Annually, on a priority basis, monitor during and after the area has been grazed	Utilization exceeds prescribed levels or key species vigor is declining Utilization levels exceed identified objectives necessary to provide sufficient forage and cover to support and maintain healthy wildlife and wild horse populations
	Grazing-12	Livestock numbers	Counts and site visits; monitoring plans are included in Allotment Management Plans, Actual Use Reporting	Priority Allotments	Number of allotments or operators inspected	Annually or when livestock are moved on or off the allotment	Livestock numbers exceeding permitted numbers or in areas unauthorized

Resource	Record Number	Indicator	Method or Technique	Location	Unit of Measure	Frequency	Action Triggers
Recreation	Recreation-1	Visitor realization of SRMA outcome objective	Surveys, visitor assessments, and/or informal interviews	All SRMAs, and at the field office level	Outcome realization rate on a 5-point scale	Three to 5 years after reaching the desired future recreation setting and completing all identified implementation actions Fifteen years after signing of the Lander ROD and Approved RMP	Action is triggered when realization of SRMA outcome objective is less than 4 on a 5-point scale or surveys indicate a realization of different outcomes than those targeted in the SRMA objective Action may also be triggered if new substantial visitor demand is found in an area that is not identified as a SRMA or ERMA, and if the demand occurs in an area where accommodating such demand will not substantially interfere with the achievement of other planning objectives
	Recreation-2	Recreation setting condition in SRMAs	Onsite patrols and recreation setting mapping techniques	All SRMAs	Recreation setting matrix and/or mapping criteria contained in Washington Office Instruction Memorandum 210-092	Monitor setting conditions every 2-5 years after completing identified implementation actions	Setting condition differs from the desired future setting description described for each SRMA

Resource	Record Number	Indicator	Method or Technique	Location	Unit of Measure	Frequency	Action Triggers
	Recration-4	Visitor participation in ERMA activities	Surveys, visitor assessments, and/or informal interview	All ERMAs	Visitor satisfaction with recreation activity opportunities	Three to 5 years after completing all identified implementation action	Visitors do not identify satisfaction and/or realization of targeted ERMA activity opportunities
	Recreation-5	Completion of actions	Implementation tracking	Field Office Wide	Actions achieved and workload measures	Yearly Document achievement of implementation actions	When actions identified for specific SRMAs, ERMAs, or the general field office are not implemented
	Recreation-6	Recreation impacts to resources	Rangeland health assessments, or random site visits	Random locations across the Field Office	Undesirable impacts to resources caused by recreation use or facilities	As conditions are found Document undesirable impacts to resources caused by use or facilities	When remediation or mitigation action is needed to address undesirable rangeland health condition
	Recreation-7	Visitor safety issues	Onsite monitoring, visitor reports, Facility Assessment Management System assessments, engineering evaluations	Random locations across the Field Office with a focus on developed sites and existing infrastructure	Known incidents or documented occurrences of visitor hazards	As conditions are found Document visitor safety incident, hazards, and remediation actions	When visitor safety hazards are identified

Resource	Record Number	Indicator	Method or Technique	Location	Unit of Measure	Frequency	Action Triggers
	Recreation-8	Conflicts between visitors and other users	Onsite monitoring and reports of conflict from other visitors or users	Random locations across the Field Office	Known incidents or documented occurrences of conflicts.	Yearly Document conflict occurrences and remediation actions	When conflicts are identified
	Recreation-9	Visitor use	Traffic counters, field visits, special recreation permit post-use reports, Residential Use Permits, estimation	Entire Lander Field Office	Visits, visitor days, average group size, and contacts with others	Yearly Documented in the RMIS database	When use levels (contacts with others, and groups size) is in conflict with other program objectives or recreation objectives.
	Recreation-10	Compliance with permit authorization	Administrative review, site inspection	Authorized locations and sites	Permit stipulations, resource conditions, and site restoration	During and after an event or permit period Documented through annual permit review	When non-compliance is determined or degradation of resources is occurring
Special Designations							

Resource	Record Number	Indicator	Method or Technique	Location	Unit of Measure	Frequency	Action Triggers
Congressionally Designated Trails	NTMC-1	Resource condition	Various	Special designation and management area	Various	Every 1 to 5 years and every year for high use segments	Resource condition, use type, or use level that conflicts or causes impact to the values for which the trails were designated or is in conflict with the trails specific objectives contained within the RMP
	NTMC-2	See visual resource and recreation section for monitoring and evaluation standards for these programs as it relates to Congressionally Designated Trails					
	NTMC-d	A long-term Congressionally Designated Trail monitoring and evaluation plan will be developed through implementation planning					
Wilderness Study Areas	WSA-1	Various	Site visit	WSAs	Various	Annually as described in the WSA Management Policy	Resource condition, use type, or use level that does not comport to the WSA Management Policy

Resource	Record Number	Indicator	Method or Technique	Location	Unit of Measure	Frequency	Action Triggers
Wild and Scenic Rivers	WSR-1	Various	Site visit	Each WSR	Various	Annually as described in the WSR manual	Resource condition, use type, or use level that does not comport to the WSR management decisions contained in this RMP, or WSR Management Policy
ACECs	ACEC-1	Resource condition	Site visit or remote sensing	Special designation and management area	Various	Annually	Resource condition, use type, or use level that conflicts or causes impact to the relevant and important values for which the ACEC was designated or is in conflict with the ACEC specific objective

[1] Wyoming Department of Environmental Quality, Air Quality Division is responsible for data collection
[2] The State Historic Preservation Officer is responsible for data collection
[3] The County with jurisdiction is responsible for data collection
[4] The Weed and Pest District and the Animal and Plant Health Inspection Service are responsible for data collection
[5] Wyoming Department of Environmental Quality, Water Division is responsible for data collection
[6] Data are collected in coordination with Wyoming Game and Fish Department
[7] Data are collected in coordination with U.S. Fish and Wildlife Service

ACEC	Area of Critical Environmental Concern
AUM	Animal Unit Month
BLM	Bureau of Land Management
EIS	Environmental Impact Statement
ERMA	Extensive Recreation Management Area
GIS	Geographic Information System
NTMC	National Trails Management Corridor
RMP	Resource Management Plan
ROD	Record of Decision
SRMA	Special Recreation Management Area
VRM	Visual Resource Management
WGFD	Wyoming Game and Fish Department
WSA	Wilderness Study Area
WSR	Wild and Scenic River

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Appendix O. Final Environmental Impact Statement and Record of Decision Crosswalk Tables

Management actions from the Proposed Resource Management Plan (RMP) and Final Environmental Impact Statement (EIS) correspond generally to decisions listed in this Record of Decision (ROD) and Approved RMP, as shown in Table O.1, "Management Actions and Decisions Crosswalk " (p. 383). In many cases, the language and stated actions have changed from those listed in the Proposed RMP and Final EIS, and some management actions have not been carried forward as decisions in the ROD (denoted by "N/A" in the second column of the table). In addition, the ROD and Approved RMP contain some new decisions that have no corresponding management action in the Proposed RMP and Final EIS (denoted by "N/A" in the first column of the table). Table O.1, "Management Actions and Decisions Crosswalk " (p. 383) is ordered sequentially by management action in the Proposed RMP and Final EIS. Please note that in some cases, corresponding management actions in the ROD and Approved RMP may be located in a different resource section than they originally appeared in the Proposed RMP and Final EIS. Table O.2, "Maps Crosswalk" (p. 396) and Table O.3, "Appendices Crosswalk" (p. 401), provide a crosswalk for maps and appendices.

Table O.1. Management Actions and Decisions Crosswalk

Proposed RMP and Final EIS Management Action Record Numbers	ROD and Approved RMP Decision Record Numbers
1000 Physical Resources (PR)	
1001	1001
1002	1002
1003	1003
1004	1004
1005	1005
1006	1006
1007	1007
1008	1008
1009	1009
1010	1010
1011	1011
1012	1012
1013	1013
1014	1014
1015	1015
1015	1016
1016	1017
1017	1018
1018	1019
1019	1020
1020	1015
1021	1021
1022	1022
1023	1023
1024	1024
1025	1025

Proposed RMP and Final EIS Management Action Record Numbers	ROD and Approved RMP Decision Record Numbers
1026	1026
1027	1027
1028	1028
1029	1029
1030	1030
1031	1031
1032	1032
1033	1033
1034	1034
1035	1035
1036	1036
1037	1037
1038	1038
1039	1039
1040	1040
1041	1041
1042	1042
1043	1043
1044	1044
1044	1045
1045	1046
1046	1047
1047	1048
1048	1050
1049	1051
1050	1052
1051	1053
1052	1054
2000 Mineral Resources (MR)	
2001	2001
2002	2002
2002	2003
2003	2007
2004	2009
2004	2010
2004	2011
2004	2016
2005	2014
2006	2018
2007	2004
2008	2005
2008	2006
2009	2008
2010	2008
2011	2008
2012	2008
2013	2012
2014	2013
2015	2015
2016	2017
2017	2019
2018	2020
2019	2021

Proposed RMP and Final EIS Management Action Record Numbers	ROD and Approved RMP Decision Record Numbers
2020	2022
2021	2023
2022	2024
2023	2024
2024	2025
2025	2026
2026	2027
2027	2028
2028	2029
2029	2030
2030	2031
2031	2032
2032	2033
2033	2034
2034	2035
3000 Fire and Fuels Management (FM)	
3001	3001
3001	3004
3002	3010
3003	3011
3004	3007
3005	3008
3006	3012
3007	3013
3008	3014
3009	3015
3010	3009
3011	3016
3012	3017
3013	3005
3014	3002
3015	3003
3016	3006
4000 Biological Resources (BR)	
4001	4002
4002	4001
4003	4005
4004	4006
4005	4004
4006	4007
4007	4003
4008	4008
4009	4011
4010	4009
4011	4009
4012	4010
4013	4003
4014	4012
4015	4013
4016	4014
4017	4015
4018	4016
4019	4017

Proposed RMP and Final EIS Management Action Record Numbers	ROD and Approved RMP Decision Record Numbers
4020	4019
4021	4018
4022	4027
4023	4020
4024	4021
4025	4022
4026	4024
4027	4023
4028	4026
4029	4025
4030	4028
4031	4029
4032	4032
4033	4031
4034	4030
4035	4033
4036	4034
4037	4061
4038	4035
4039	4036
4040	4037
4041	4038
4042	4039
4043	4063
4044	4049
4045	4050
4046	4064
4047	4065
4048	4051
4048	4052
4049	4040
4050	4041
4051	4042
4052	4053
4053	4054
4054	4055
4054	1049
4055	4043
4055	4044
4056	4056
4057	4057
4058	4058
4059	4059
4060	4060
4060	4112
4061	4066
4062	4067
4063	4068
4064	4069
4065	4062
4066	4071
4067	4072
4068	4089

Proposed RMP and Final EIS Management Action Record Numbers	ROD and Approved RMP Decision Record Numbers
4069	4073
4070	4074
4071	4075
4072	4093
4073	4094
4074	4076
4074	4077
4075	4085
4076	4108
4077	4084
4078	4078
4079	4098
4080	4100
4081	4090
4082	4101
4083	4115
4084	4099
4085	4102
4086	4079
4087	4080
4088	4081
4089	4082
4090	4083
4091	4086
4092	4087
4093	4103
4094	4104
4095	4105
4095	4106
4096	4107
4097	4109
4098	4110
4099	4111
4100	4112
4101	4113
N/A	4114
4101	4115
4102	4116
4103	4112
4103	4109
4104	4117
4105	4118
4106	4119
4107	4088
4108	4092
4109	4095
4110	4096
4111	4097
4112	4091
N/A	4120
4113	4121
4114	4122
4115	4123

Proposed RMP and Final EIS Management Action Record Numbers	ROD and Approved RMP Decision Record Numbers
4116	4124
4117	4125
4118	4126
4119	4127
4120	4128
4121	4129
4122	4130
4123	4131
4124	4132
N/A	4045
N/A	4046
N/A	4047
N/A	4048
N/A	4070
5000 Heritage Resources (HR)	
5001	5001
5002	5005
5003	5003
5004	5004
5005	5006
5006	5013
5007	5002
5008	5012
5009	5010
5010	5008
5011	5007
5012	5009
5013	5011
5014	5043
5015	5045
5015	5046
5016	5048
5017	5047
5018	5044
5019	5050
5019	5051
5020	5052
5021	5049
N/A	5014
5022	5058
5022	5059
5022	5054
5023	5053
5024	5054
5025	5055
5026	5057
5027	5056
5028	5060
5029	5061
5030	5062
5031	5063
5032	5064
5033	5065

Proposed RMP and Final EIS Management Action Record Numbers	ROD and Approved RMP Decision Record Numbers
5034	5066
5035	5067
5036	5068
5037	5069
5038	5070
6000 Land Resources (LR)	
6001	6001
6002	6002
6003	6003
6004	6004
6005	6005
6006	6006
6007	6007
6008	6008
6009	6009
6010	6011
6011	6014
6012	6012
6013	6013
6014	6015
6015	6010
6016	6018
6017	6020
6017	6021
6017	6022
6018	6024
6019	6017
6020	6019
6020	6023
6021	6023
6022	6025
6023	6016
6024	6016
6025	6032
6026	6028
6027	6029
6028	6031
6029	6030
6030	6033
6031	6034
6032	6046
6033	6035
6034	6036
6035	6037
6036	6038
6037	6039
6038	6040
6039	6041
6040	6042
6041	6043
6042	6044
6043	6045
6044	6026

Proposed RMP and Final EIS Management Action Record Numbers	ROD and Approved RMP Decision Record Numbers
6045	6027
6046	6047
6047	6048
6048	6049
6049	N/A
6050	6052
6051	6061
6052	6050
6053	6070
6054	6060
6055	6051
6056	6071
6057	6054
6058	6073
6059	6065
6060	6053
6061	6050
6062	6074
6063	6062
6064	6069
6065	6055
6066	6066
6067	6056
6068	6063
6069	6058
6069	6059
6070	6064
6071	6075
6072	6067
6073	6072
6073	6057
6074	6068
6075	6076
6075	6077
6076	6078
6077	6079
6078	6080
6079	6081
6079	6079
6080	6083
6081	6082
6082	6085
6083	6085
6084	6086
6085	6130
6086	6090
6086	6097
6086	6104
6086	6111
6086	6122
6086	6118
6086	6087
6087	6088

Proposed RMP and Final EIS Management Action Record Numbers	ROD and Approved RMP Decision Record Numbers
6087	6089
6088	6139
6089	6092
6090	6094
6091	6095
6092	6096
6093	6099
6094	6101
6095	6102
6096	6103
6097	6106
6098	6108
6099	6109
6100	6110
6101	6113
6102	6115
6103	6116
6104	6117
6105	6120
6106	6128
6107	6124
6108	6126
6109	6127
6110	6128
6111	6129
6112	N/A
6113	N/A
6114	N/A
6115	N/A
6116	6084
6117	6134
6118	N/A
6119	6135
6120	6136
N/A	6137
6121	6084
6122	6131
6123	6132
6124	6133
N/A	6091
N/A	6093
N/A	6098
N/A	6100
N/A	6105
N/A	6107
N/A	6112
N/A	6114
N/A	6119
N/A	6121
N/A	6123
N/A	6125
N/A	6138
N/A	6140

Proposed RMP and Final EIS Management Action Record Numbers	ROD and Approved RMP Decision Record Numbers
7000 Special Designations (SD)	
7001	7001
7002	7009
7003	7001
7003	7012
7004	7013
7004	7015
7004	7018
7004	7021
7004	7024
7004	7027
7005	7014
7006	7004
7007	7010
7008	7002
7008	7005
7009	7011
7010	7007
7011	7006
7012	7008
7013	7003
N/A	7016
N/A	7017
N/A	7019
N/A	7020
N/A	7022
N/A	7023
N/A	7025
N/A	7026
N/A	7028
N/A	7029
7014	7030
7015	7031
7016	7035
7017	7033
7018	7034
7019	7037
7020	7032
7021	7038
7022	7036
7023	7040
7023	7048
7024	7043
7025	7044
7025	7045
7026	7046
7027	7039
7027	7040
7027	7041
7028	7040
7029	7040
7030	7042
7030	7049

Proposed RMP and Final EIS Management Action Record Numbers	ROD and Approved RMP Decision Record Numbers
7031	7040
7032	7050
7033	7045
7034	7051
7035	7047
7036	7053
N/A	7052
N/A	7054
7037	7057
7038	7056
7039	N/A
7040	7055
7041	7064
7042	7063
7043	7058
7044	7061
7045	7059
7045	7062
7046	7060
7047	7065
7048	7066
7049	7072
7050	7075
7051	7074
7052	7067
7053	7072
7054	7068
7054	7073
7055	7070
7056	7071
7057	7069
7058	7076
7059	7077
7060	N/A
7061	N/A
7062	N/A
7063	N/A
7064	N/A
7065	N/A
7066	N/A
7067	N/A
7068	N/A
7069	7080
7070	7082
7071	7078
7072	7080
7073	7079
7073	7081
7074	7083
7075	7084
7076	7085
7077	7088
7078	7090

Proposed RMP and Final EIS Management Action Record Numbers	ROD and Approved RMP Decision Record Numbers
7079	7086
7080	7087
7080	7089
7081	7091
7082	7092
7083	7093
7084	7101
7085	7097
7086	7100
7087	7094
7088	7098
7089	7095
7089	7099
7090	7096
7091	7104
7092	7102
7093	7103
7094	7112
7095	7111
7096	7105
7097	7106
7097	7109
7098	7108
7099	7107
7100	7113
7101	7114
N/A	7110
7102	7116
7103	7123
N/A	7124
7104	7122
7105	7115
7106	7120
7107	7117
7107	7121
7108	7008
7109	7123
7110	7003
7111	7118
7112	7119
7113	5028
7114	5029
7115	5022
7116	5026
7117	5024
7117	5025
7117	5027
7118	5030
7119	5031
7120	5023
7121	5039
7122	5040
7123	5032

Proposed RMP and Final EIS Management Action Record Numbers	ROD and Approved RMP Decision Record Numbers
7124	5036
7125	5034
7125	5035
7125	5037
7125	5038
7126	5033
7127	5041
7128	5042
7129	N/A
7130	N/A
7131	6124
7132	6124
7133	N/A
7134	5016
7135	5020
7136	5015
7137	5018
7138	5017
7139	5019
7140	5021
7141	7128
7142	7130
7143	7133
7144	7125
7145	7126
7145	7129
7146	7131
7147	7133
7148	7132
7149	7127
7150	7134
8000 Socioeconomic Resources (SR)	
8001	8001
8002	8002
8003	8003
8004	8004
8005	8005
8006	8006
8007	8007
8008	8008
8009	8009
8010	8010
8011	8011
8012	8012
8013	8013
8014	8014
8015	8015

EIS Environmental Impact Statement
N/A Not applicable
RMP Resource Management Plan
ROD Record of Decision

Table O.2. Maps Crosswalk

Proposed RMP and Final EIS	ROD and Approved RMP
Map 1. Surface Ownership in the Planning Area	Map 1. Surface Ownership in the Planning Area
Map 2. Federal Mineral Estate in the Planning Area	Map 2. Federal Mineral Estate in the Planning Area
Map 3. Dubois Area and General Location Names	Map 3. Dubois Area and General Location Names
Map 4. Physical Resources - Major River Basins	N/A
Map 5. Physical Resources - Riparian Areas	Map 4. Riparian Areas
Map 6. Physical Resources - Class I Waters	Map 5. Class I Waters
Map 7. Physical Resources - Wind Erosion Potential	N/A
Map 8. Physical Resources - Water Erosion Potential	N/A
Map 9. Physical Resources - Annual Precipitation	Map 6. Average Annual Precipitation
Map 10. Physical Resources - Surface Slope	Map 7. Surface Slope
Map 11. Physical Resources - Soils with Limited Reclamation Potential	Map 8. Soils with Limited Reclamation Potential
Map 12. Physical Resources - Citizen Proposed Wilderness	N/A
Map 13. Physical Resources - Non-WSA Lands with Wilderness Characteristics (Alternative B)	N/A
Map 14. Physical Resources - Non-WSA Lands with Wilderness Characteristics (Alternative D)	Map 3. Dubois Area and General Location Names
Map 15. Mineral Resources - Uranium Mining Projects and Districts	N/A
Map 16. Mineral Resources - Geothermal Development Potential	N/A
Map 17. Mineral Resources - Conventional Oil and Gas Development Potential	N/A
Map 18. Mineral Resources - Salable - Mineral Materials Sand and Gravel Occurrence Potential	N/A
Map 19. Mineral Resources - Phosphate Leasing Potential	N/A
Map 20. Mineral Resources - Coalbed Natural Gas Development Potential	N/A
Map 21. Mineral Resources - Locatable Mineral Withdrawals (Alternative A)	N/A
Map 22. Mineral Resources - Locatable Mineral Withdrawals (Alternative B)	N/A
Map 23. Mineral Resources - Locatable Mineral Withdrawals (Alternative C)	N/A
Map 24. Mineral Resources - Locatable Mineral Withdrawals (Alternative D)	Map 9. Locatable Mineral Management
Map 25. Mineral Resources - Geothermal Energy Constraints (Alternative A)	N/A
Map 26. Mineral Resources - Geothermal Energy Constraints (Alternative B)	N/A
Map 27. Mineral Resources - Geothermal Energy Constraints (Alternative C)	N/A
Map 28. Mineral Resources - Geothermal Energy Constraints (Alternative D)	Map 10. Geothermal Energy Management
Map 29. Mineral Resources - Oil and Gas Constraints (Alternative A)	N/A
Map 30. Mineral Resources - Oil and Gas Constraints (Alternative B)	N/A
Map 31. Mineral Resources - Oil and Gas Constraints (Alternative C)	N/A

Proposed RMP and Final EIS	ROD and Approved RMP
Map 32. Mineral Resources - Oil and Gas Constraints (Alternative D)	Map 11. Oil and Gas Management
Map 33. Mineral Resources - Oil and Gas Fields and Leases	N/A
Map 34. Mineral Resources - Salable - Mineral Materials Disposal (Alternative A)	N/A
Map 35. Mineral Resources - Salable - Mineral Materials Disposal (Alternative B)	N/A
Map 36. Mineral Resources - Salable - Mineral Materials Disposal (Alternative C)	N/A
Map 37. Mineral Resources - Salable - Mineral Materials Disposal (Alternative D)	Map 12. Mineral Material Management
Map 38. Mineral Resources - Phosphate Leasing (Alternative A)	N/A
Map 39. Mineral Resources - Phosphate Leasing (Alternative B)	N/A
Map 40. Mineral Resources - Phosphate Leasing (Alternative C)	N/A
Map 41. Mineral Resources - Phosphate Leasing (Alternative D)	Map 13. Phosphate Management
Map 42. Fire Management - Fire Regime Condition Classifications	Map 14. Fire Regime Condition Classifications
Map 43. Fire Management - Fire Management Units	Map 15. Fire Management Units
Map 44. Biological Resources - Precipitation Zones for U.S. Department of Agriculture Natural Resources Conservation Service Ecological Site Descriptions	N/A
Map 45. Biological Resources - Vegetation Communities and Major Land Resource Areas	N/A
Map 46. Biological Resources - Invasive Plant Species	N/A
Map 47. Biological Resources - Primary Forest Resource Areas	Map 16. Primary Forest Resource Areas
Map 48. Biological Resources - Proper Functioning Condition Streams	N/A
Map 49. Biological Resources - Fish-bearing Streams	Map 17. Fish-bearing Streams
Map 50. Biological Resources - Bighorn Sheep Crucial Winter Range and Parturition Areas	Map 18. Bighorn Sheep Crucial Winter Range and Parturition Areas
Map 51. Biological Resources - Elk Winter Ranges and Parturition Areas	Map 19. Elk Winter Ranges and Parturition Areas
Map 52. Biological Resources - Moose Crucial Winter Range	Map 20. Moose Crucial Winter Range
Map 53. Biological Resources - Mule Deer Crucial Winter Range	Map 21. Mule Deer Winter Ranges
Map 54. Biological Resources - Pronghorn Crucial Winter Range	Map 22. Pronghorn Crucial Winter Range
Map 55. Biological Resources - Wyoming Game and Fish Department Bighorn Sheep Herd Units	N/A
Map 56. Biological Resources - Wyoming Game and Fish Department Elk Herd Units	N/A
Map 57. Biological Resources - Wyoming Game and Fish Department Moose Herd Units	N/A
Map 58. Biological Resources - Wyoming Game and Fish Department Mule Deer Herd Units	N/A
Map 59. Biological Resources - Wyoming Game and Fish Department Pronghorn Herd Units	N/A

Proposed RMP and Final EIS	ROD and Approved RMP
Map 60. Biological Resources - Big Game Migration Routes and Barriers	Map 23. Identified Big Game Migration Routes and Barriers
Map 61. Biological Resources - Wyoming Game and Fish Department White-tailed Deer Herd Units	N/A
Map 62. Biological Resources - Known Raptor Nests	N/A
Map 63. Biological Resources - Special Status Species Greater Sage-Grouse (Alternatives A and C)	N/A
Map 64. Biological Resources - Special Status Species Greater Sage-Grouse (Alternative B)	N/A
Map 65. Biological Resources - Special Status Species Greater Sage-Grouse (Alternative D)	Map 24. Special Status Species Greater Sage-Grouse
Map 66. Biological Resources - Special Status Species Lynx Analysis Units	Map 25. Special Status Species Canada Lynx Analysis Units
Map 67. Biological Resources - Special Status Species Desert Yellowhead Critical Habitat	Map 26. Special Status Species Desert Yellowhead
Map 68. Biological Resources - Wild Horse Herd Management Areas	Map 27. Wild Horse Herd Management Areas
Map 69. Heritage and Visual Resources - Cultural Resources	Map 28. Heritage and Cultural Resources
Map 70. Heritage and Visual Resources - Potential Fossil Yield Classifications	Map 29. Potential Fossil Yield Classifications
Map 71. Heritage and Visual Resources - Visual Resource Inventory Distance Mapping Zones	N/A
Map 72. Heritage and Visual Resources - Visual Resource Inventory Sensitivity	N/A
Map 73. Heritage and Visual Resources - Visual Resource Inventory Scenic Quality	N/A
Map 74. Heritage and Visual Resources - New (2009) Visual Resource Inventory Classes	N/A
Map 75. Heritage and Visual Resources - Existing (1985) Visual Resource Management Classes (Alternative A)	N/A
Map 76. Heritage and Visual Resources - Visual Resource Management Classes (Alternative B)	N/A
Map 77. Heritage and Visual Resources - Visual Resource Management Classes (Alternative C)	N/A
Map 78. Heritage and Visual Resources - Visual Resource Management Classes (Alternative D)	Map 30. Visual Resource Management
Map 79. Heritage and Visual Resources - Regional Historic Trails and Early Highway-Intact Portions (Alternatives A, C, and D)	Map 28. Heritage and Cultural Resources
Map 80. Heritage and Visual Resources - Regional Historic Trails and Early Highways (Alternative B)	N/A
Map 81. Land Resources - Transportation Features	N/A
Map 82. Land Resources - Jeffrey City Area Transportation Features	N/A
Map 83. Land Resources - Lander Area Transportation Features	N/A
Map 84. Land Resources - Lysite Area Transportation Features	N/A
Map 85. Land Resources - Dubois Area Transportation Features	N/A
Map 86. Land Resources - 1987 Recreation Opportunity Spectrum	N/A
Map 87. Land Resources - Recreation Opportunity Spectrum 2009 Physical Setting	N/A

Proposed RMP and Final EIS	ROD and Approved RMP
Map 88. Land Resources - Recreation Opportunity Spectrum 2009 Social Setting	N/A
Map 89. Land Resources - Recreation Opportunity Spectrum 2009 Operational Setting	N/A
Map 90. Land Resources - Recreation Management Areas (Alternative A)	N/A
Map 91. Land Resources - Recreation Management Areas (Alternative B)	N/A
Map 92. Land Resources - Recreation Management Areas and Recreation and Public Purpose Act Leases (Alternative C)	N/A
Map 93. Land Resources - Recreation Management Areas and Recreation and Public Purpose Act Leases (Alternative D)	Map 39. Recreation Management Areas
Map 94. Land Resources - Lands Identified for Disposal, Retention, or Acquisition (Alternatives A and D)	Map 31. Lands Identified for Disposal
Map 95. Land Resources - Lands Identified for Disposal, Retention, or Acquisition (Alternatives B and C)	N/A
Map 96. Land Resources - Wind Energy Potential	N/A
Map 97. Land Resources - Wind Energy Development Avoidance and Exclusion Areas (Alternative A)	N/A
Map 98. Land Resources - Wind Energy Development Avoidance and Exclusion Areas (Alternative B)	N/A
Map 99. Land Resources - Wind Energy Development Avoidance and Exclusion Areas (Alternative C)	N/A
Map 100. Land Resources - Wind Energy Development Avoidance and Exclusion Areas (Alternative D)	Map 32. Wind Energy Management
Map 101. Land Resources - Rights-of-Way Avoidance and Exclusion Areas (Alternative A)	N/A
Map 102. Land Resources - Rights-of-Way Avoidance and Exclusion Areas (Alternative B)	N/A
Map 103. Land Resources - Rights-of-Way Avoidance and Exclusion Areas (Alternative C)	N/A
Map 104. Land Resources - Rights-of-Way Avoidance and Exclusion Areas (Alternative D)	Map 33. Rights-of-Way Management
Map 105. Land Resources - Rights-of-Way Designated Corridors and Communication Sites (Alternative A)	N/A
Map 106. Land Resources - Rights-of-Way Designated Corridors and Communication Sites (Alternative B)	N/A
Map 107. Land Resources - Rights-of-Way Designated Corridors and Communication Sites (Alternative C)	N/A
Map 108. Land Resources - Rights-of-Way Designated Corridors and Communication Sites (Alternative D)	Map 34. Rights-of-Way Designated Corridors and Communication Sites
Map 109. Land Resources - Trails and Travel Management (Alternative A)	N/A
Map 110. Land Resources - Trails and Travel Management (Alternative B)	N/A
Map 111. Land Resources - Trails and Travel Management (Alternative C)	N/A
Map 112. Land Resources - Trails and Travel Management (Alternative D)	Map 35. Trails and Travel Management
Map 113. Land Resources - Trails and Travel Management Seasonal Limitation to All Travel (Alternative D)	Map 37. Trails and Travel Management - Seasonal Limitation to All Travel (Human Presence)

Proposed RMP and Final EIS	ROD and Approved RMP
Map 114. Land Resources - Trails and Travel Management Over-Snow Travel (Alternative A)	N/A
Map 115. Land Resources - Trails and Travel Management Over-Snow Travel (Alternative B)	N/A
Map 116. Land Resources - Trails and Travel Management Over-Snow Travel (Alternative D)	Map 36. Trails and Travel Management Over-Snow Travel
Map 117. Land Resources - Livestock Grazing (Alternatives A and C)	N/A
Map 118. Land Resources - Livestock Grazing (Alternative B)	N/A
Map 119. Land Resources - Livestock Grazing (Alternative D)	Map 38. Livestock Grazing
Map 120. Land Resources - Recreation Sites	Map 40. Recreation Sites
Map 121. Special Designations - Continental Divide National Scenic Trail	N/A
Map 122. Special Designations - National Historic Trails High Potential Segments	N/A
Map 123. Special Designations - National Historic Trails with Associated Sites	Map 42. National Historic Trails with Associated Sites
Map 124. Special Designations - National Historic Trails (Alternative A)	N/A
Map 125. Special Designations - National Historic Trails (Alternative B)	N/A
Map 126. Special Designations - National Historic Trails (Alternative C)	N/A
Map 127. Special Designations - National Trails Management Corridor (Alternative D)	Map 43. National Trails Management Corridor
Map 128. Special Designations - Wilderness Study Areas	Map 44. Wilderness Study Areas
Map 129. Special Designations - Suitable Wild and Scenic River Segments (Alternatives A, B, and D)	Map 45. Eligible and Suitable Wild and Scenic River Segments
Map 130. Special Designations - Areas of Critical Environmental Concern (Alternative A)	N/A
Map 131. Special Designations - Areas of Critical Environmental Concern (Alternative B)	N/A
Map 132. Special Designations - Areas of Critical Environmental Concern (Alternative D)	Map 46. Areas of Critical Environmental Concern
Map 133. Socioeconomic Resources - Tribal Census Tracts in the Wind River Indian Reservation	N/A
Map 134. Mineral Resources - Designated Development Area (Alternative D)	Map 47. Designated Development Area and Areas with Master Leasing Plans in the Planning Area
Map 135. Mineral Resources - Areas with Master Leasing Plans (Alternative D)	Map 47. Designated Development Area and Areas with Master Leasing Plans in the Planning Area
Map 136. Cumulative Impact Analysis Area - Greater Sage-Grouse - Surface Ownership	N/A
Map 137. Cumulative Impact Analysis Area - Greater Sage-Grouse - Split Estate	N/A
Map 138. Cumulative Impact Analysis Area - Fourth Order Hydrologic Units	N/A
Map 139. Cumulative Impact Analysis Area - Wyoming Basin Ecoregion and Continental Divide National Scenic Trail	N/A
Map 140. Cumulative Impact Analysis Area - National Historic Trails	N/A
Map 141. Land Resources - Lands Proposed for Exchange by Members of the Public	N/A

Proposed RMP and Final EIS	ROD and Approved RMP
Map 142. Trails and Travel Management - Travel Management Areas	N/A
N/A	Map 41. Recreation Use Areas
EIS Environmental Impact Statement N/A Not applicable RMP Resource Management Plan ROD Record of Decision U.S. United States WSA Wilderness Study Area	

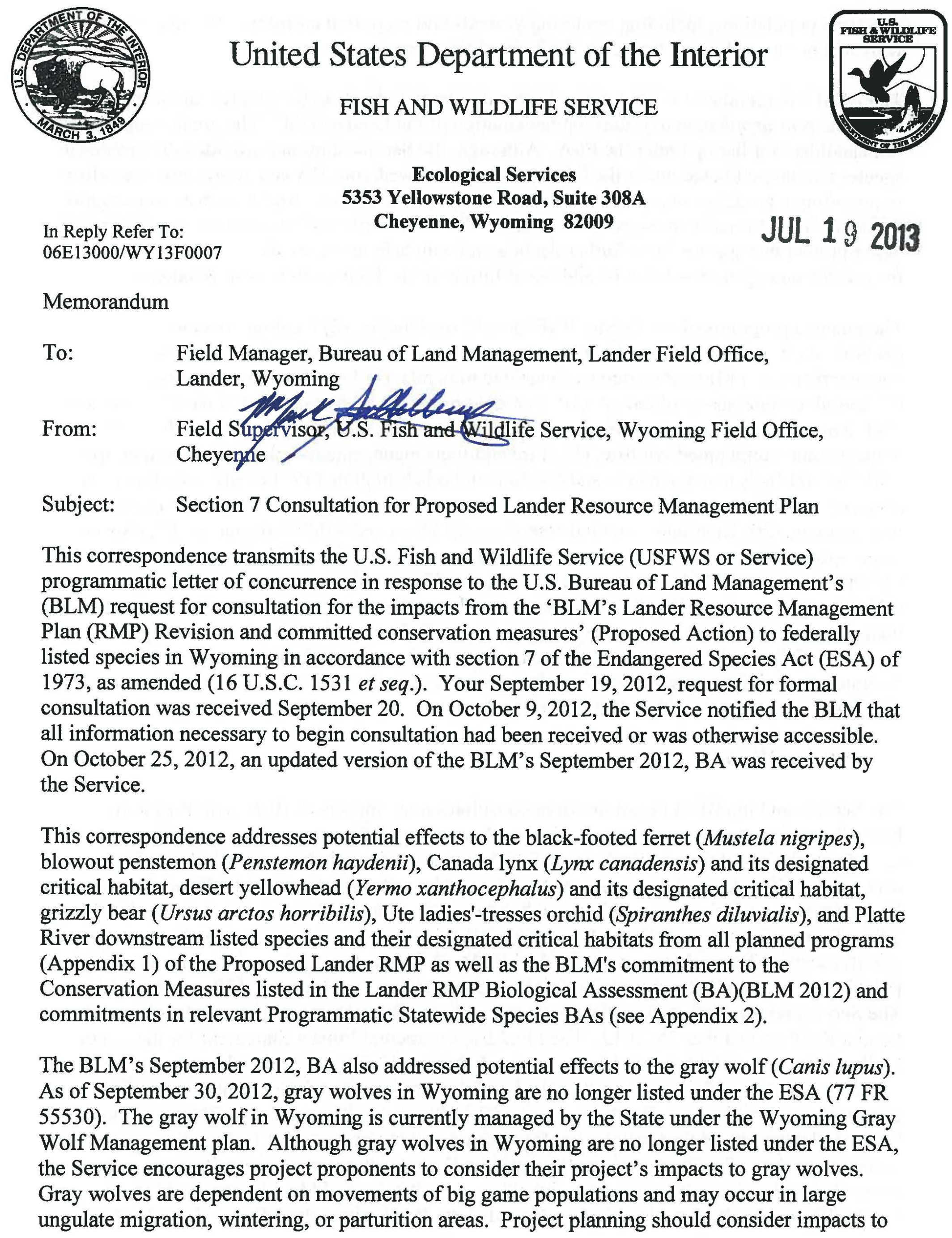
Table O.3. Appendices Crosswalk

Proposed RMP and Final EIS	ROD and Approved RMP	Title
A	N/A	Federal Laws, Regulations, Policies, Guidance, and Other Applicable Mandates and Authority
B	A	Maps
C	N/A	Recreation Management Area Forms
D	B	Reclamation Objectives and Standards
E	C	Exception, Modification, and Waiver Criteria, Avoidance Criteria, and Special Management for Designated Corridors
F	D	Lander Air Resources Management Plan
G	N/A	Example Detailed, Multi-phased, Reclamation Plan
H	E	Required Design Features and Best Management Practices
I	F	Stipulations and Conditions of Approval in Designated Development Areas and in Non-Designated Development Areas
J	N/A	Wyoming Standards for Healthy Rangelands

Proposed RMP and Final EIS	ROD and Approved RMP	Title	
K	G	Livestock Grazing Allotments and Range Improvements Note: Tables K.1 and K.5 in Appendix K, are not included in Appendix G and the tables carried forward in Appendix G are renumbered, as listed below.	
		Table K.1, Grazing Allotments, Acres, Season of Use, and Animal Unit Months	N/A
		Table K.2, Allotment Categorization – Current and Proposed	Table G.1, Allotment Categorization
		Table K.3, Lander Field Office Grazing Allotments Assessed for Meeting Standards	Table G.2, Lander Field Office Grazing Allotments Assessed for Meeting Standards
		Table K.4, Allotment Management Plans and Rangeland Management Agreements Developed	Table G.3, Allotment Management Plans and Rangeland Management Agreements Developed
		Table K.5, Summary of Range Improvements Lander Field Office, 1986-2009	N/A
		Table K.6, Animal Unit Months Authorized, 1989-2008	Table G.4, Animal Unit Months Authorized, 1989-2008
L	N/A	Economic Impact Analysis Methodology	
M	H	Wyoming BLM Mitigation Guidelines for Surface-Disturbing and Disruptive Activities	
N	I	Oil and Gas Stipulations	
O	N/A	Fire Management	
P	J	Species Mentioned in the Lander Field Office Resource Management Plan and Environmental Impact Statement	
Q	N/A	Fire Regime and Vegetation Condition	
R	K	Lands Identified for Land Tenure Adjustment(s)	
S	K	Lands Identified for Disposal	
T	N/A	Surface Disturbance and Reasonable Foreseeable Actions	
U	N/A	Technical Support Document for Air Resources	
V	L	Wild Horse Management in the Lander Planning Area	
W	N/A	Travel Management Planning	
X	N/A	Comment Analysis	
N/A	M	Greater Sage-grouse Conservation Objectives Final Report Consistency Review	
N/A	N	Monitoring and Evaluation Plan	
N/A	O	Final Environmental Impact Statement and Record of Decision Crosswalk Tables	
N/A	P	Biological Opinion	

BLM Bureau of Land Management
EIS Environmental Impact Statement
N/A Not applicable
RMP Resource Management Plan
ROD Record of Decision

Appendix P. Biological Opinion



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
5353 Yellowstone Road, Suite 308A
Cheyenne, Wyoming 82009

In Reply Refer To:
06E13000/WY13F0007

JUL 19 2013

Memorandum

To: Field Manager, Bureau of Land Management, Lander Field Office, Lander, Wyoming

From: Field Supervisor, U.S. Fish and Wildlife Service, Wyoming Field Office, Cheyenne

Subject: Section 7 Consultation for Proposed Lander Resource Management Plan

This correspondence transmits the U.S. Fish and Wildlife Service (USFWS or Service) programmatic letter of concurrence in response to the U.S. Bureau of Land Management's (BLM) request for consultation for the impacts from the 'BLM's Lander Resource Management Plan (RMP) Revision and committed conservation measures' (Proposed Action) to federally listed species in Wyoming in accordance with section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Your September 19, 2012, request for formal consultation was received September 20. On October 9, 2012, the Service notified the BLM that all information necessary to begin consultation had been received or was otherwise accessible. On October 25, 2012, an updated version of the BLM's September 2012, BA was received by the Service.

This correspondence addresses potential effects to the black-footed ferret (*Mustela nigripes*), blowout penstemon (*Penstemon haydenii*), Canada lynx (*Lynx canadensis*) and its designated critical habitat, desert yellowhead (*Yermo xanthocephalus*) and its designated critical habitat, grizzly bear (*Ursus arctos horribilis*), Ute ladies'-tresses orchid (*Spiranthes diluvialis*), and Platte River downstream listed species and their designated critical habitats from all planned programs (Appendix 1) of the Proposed Lander RMP as well as the BLM's commitment to the Conservation Measures listed in the Lander RMP Biological Assessment (BA)(BLM 2012) and commitments in relevant Programmatic Statewide Species BAs (see Appendix 2).

The BLM's September 2012, BA also addressed potential effects to the gray wolf (*Canis lupus*). As of September 30, 2012, gray wolves in Wyoming are no longer listed under the ESA (77 FR 55530). The gray wolf in Wyoming is currently managed by the State under the Wyoming Gray Wolf Management plan. Although gray wolves in Wyoming are no longer listed under the ESA, the Service encourages project proponents to consider their project's impacts to gray wolves. Gray wolves are dependent on movements of big game populations and may occur in large ungulate migration, wintering, or parturition areas. Project planning should consider impacts to big game populations, including wintering grounds and migration corridors. Effects to the gray wolf will not be addressed further in the body of this correspondence.

The BLM's September 2012 BA also addressed potential effects to the greater sage-grouse (*Centrocercus urophasianus*) from implementation of the Lander RMP. The greater sage-grouse is a candidate for listing under the ESA. Although, the Service does not provide concurrence to species that are not listed under the ESA, we have reviewed your BA and appreciate your efforts in providing a proactive analysis, subsequent effects determinations, and proactive conservation measures for the greater sage-grouse (Appendix 2). Your conservation measures should serve to better protect this species from further decline and may help to reduce the need to list. Effects to the greater sage-grouse will not be addressed further in the body of this correspondence.

The planned programs of the Lander RMP are (1) Air Quality, (2) Geologic resources, (3) Soil, (4) Water, (5) Cave and karst resources, (6) Non-WSA lands with wilderness characteristics, (7) Mineral resources--locatable minerals, (8) Leasable minerals--coal, (9) Leasable minerals--geothermal, (10) Leasable minerals–oil and gas, (11) Leasable—oil shale, (12) Leasable minerals—other solid leasable minerals, (13) Salable minerals, (14) Fire and fuels management—unplanned/wildfire, (15) Fire and fuels management—planned/prescribed fires, (16) Fire and fuels management—stabilization and rehabilitation, (17) Forests, woodlands, and aspen communities, (18) Grassland and shrubland communities, (19) Invasive species and pest management, (20) Riparian—wetland resources, (21) Fish and wildlife resources, (22) Special status species--plants, (23) Special status species—fish and wildlife, (24) Wild horses, (25) Cultural resources, (26) Paleontological resources, (27) Visual resources, (28) Lands and realty, (29) Renewable energy, (30) Rights-of-way corridors, (31) Comprehensive trails and travel management, (32) Livestock grazing management, (33) Recreation, (34) Special designations (ACECs), (35) Special designations (Congressionally Designated Trails), (36) Special designations (wilderness study areas), (37) Special designations (wild and scenic rivers), (38) Socioeconomic resources, (39) Health and safety.

Consultation History

The Service and the BLM began informal consultation on impacts of BLM activities to the black-footed ferret (*Mustela nigripes*), blowout penstemon (*Penstemon haydenii*), Canada lynx (*Lynx canadensis*), desert yellowhead and its designated critical habitat, grizzly bear (*Ursus arctos horribilis*), Ute ladies'-tresses orchid (*Spiranthes diluvialis*), and Platte River downstream listed species and their designated critical habitats in the Lander planning area on October 23, 2001. Between October 2001 and September 2012 the Service provided statewide species-specific section 7 consultation on individual BLM RMPs (including the existing Lander RMP [BLM 1987]), as well as, reviewed multiple drafts of the revised Lander RMP and RMP BA. The Service received all information necessary to begin formal consultation on the proposed Lander RMP on October 25, 2012. The Final Environmental Impact Statement for the Lander RMP was made available for public review on February 22, 2013 (BLM 2013). At that time, the Service received notification from the BLM to delay finalization of the BO until the public comments were addressed. Furthermore, the BLM Statewide Programmatic Blowout Penstemon Biological Assessment was undergoing finalization at that time, as well, and the Service was also requested to delay finalization of the BO until the Blowout Penstemon Consultation was completed and conservation measures from that consultation could be incorporated into the Lander RMP consultation. The Service provided the BLM with a draft BO on June 27, 2013.

The Service received final comments from the BLM on the draft BO on July 11, 2013. The Service then began steps to finalize the BO and associated appendices.

Informal Consultation/Conference

In the Lander RMP BA, the BLM made NLAA and NE determinations for the effect of certain programs on listed species in the Lander planning area in Wyoming. These are displayed in Table 1. When the BLM makes a "no effect" determination, concurrence from the Service is not required, although we do appreciate receiving the information used to make the determination.

The Lander RMP is used by the BLM to guide and control future actions and set standards, upon which future decisions on site-specific activities are based. An RMP only establishes general management policy. An RMP is not used to make decisions that commit resources. An RMP identifies desired outcomes, also known as "desired future conditions." These outcomes are expressed in RMPs as goals, standards, objectives, and allowable uses and actions needed to achieve desired outcomes, often referred to as RMP decisions or resource allocations. It is these decisions or resource allocations of the Lander RMP that the effects determinations in this consultation are based. As such, the BLM is still obligated to conduct section 7 consultation at the project-specific level for all BLM-authorized activities that "may affect" a listed species.

Black-footed ferret. The BA addressed activities that have no effect or are not likely to adversely affect the black-footed ferret. The BLM has based its determinations, in part, on the Service's February 2, 2004, letter which informed the BLM that all black-tailed prairie dog towns and many of the white-tailed prairie dog towns in Wyoming are not likely to be inhabited by black-footed ferrets (USFWS 2004a). Additionally, the Lander BLM is committed to maintaining the integrity of prairie dog complexes in habitat suitable for black-footed ferret reintroduction (if such habitat is identified in the Lander planning area). Furthermore, the BLM has committed to other conservation measures designed to protect black-footed ferrets and their habitat (Appendix 1). In addition, on March 6, 2013, the Service issued a 'block clearance' letter for the State of Wyoming, in effect providing acknowledgement that the likelihood of identifying wild ferrets in Wyoming, outside of those resulting from reintroductions, is distinctly minimal. Based on this information, the Service concurs with your determinations at the programmatic level that certain activities described in the Proposed Action are not likely to adversely affect non-reintroduced black-footed ferrets. Additionally, the BLM has committed to conservation measures and adopted best management practices that will aid in the recovery of this species. This species will not be discussed further in the body of this correspondence.

Blowout penstemon. The BA addressed activities that have no effect or are not likely to adversely affect the blowout penstemon. This determination is based on no blowout penstemon populations documented in the planning area and the lack of impacts due to various program management activities in blowout penstemon habitat. The BLM has committed to not authorizing projects closer than 0.25 mile from any known blowout penstemon populations without concurrence of the USFWS and BLM Authorized Officer. Additionally, surveys for the species would be required before authorizing potentially surface disturbing activities in suitable habitat. Based on this information, as well as the BLM's commitment to implement the additional conservation measures contained in Appendix 2, the Service concurs with your 'not likely to adversely affect' determination at the programmatic level (with the understanding that additional site-specific consultations will occur at the project level for any project in the planning area that may affect the blowout penstemon).

Canada lynx. The BLM addressed activities that are not likely to adversely affect the Canada lynx. The Service concurs with your determinations that activities described in the Proposed Action will not likely adversely affect the Canada lynx (with the understanding that additional site-specific consultations will occur at the project level for all projects that may affect the Canada lynx or its designated critical habitat). The Service's concurrence is based on the fact that the BLM has committed to implementing conservation measures (see Appendix 2) that are based on the Lynx Conservation Assessment and Strategy (Ruediger *et al.* 2000). In particular, the BLM has committed to limiting disturbance within each Lynx Analysis Unit (LAU) to 30 percent of the suitable habitat within that LAU. The BLM shall also not change more than 15 percent of lynx habitat within an LAU to an unsuitable condition within a 10-year period. Furthermore, the BLM has committed to maintaining denning habitat in patches generally larger than 5 acres, comprising at least 10 percent of lynx habitat. Where less than 10 percent is currently present within an LAU, management actions will be deferred that would delay development of denning habitat structure. Additional conservation measures can be found in Appendix 2. The BLM has also adopted best management practices (see Appendix 4) that will aid in the recovery of this species. Although considered unlikely to occur on BLM-administered lands at a level which will result in adverse effects to the Canada lynx, possible, but highly unlikely detrimental impacts to the Canada lynx from programs as identified by the BLM include: (1) the potential for lynx/human conflicts, (2) the increase in human activity, construction, or development causing disturbance to lynx or alterations to denning, foraging or linkage habitat, (3) the increased potential for vehicle collision, (4) habitat fragmentation, (5) the decrease in effectiveness of habitat to support lynx prey, and (6) the increased access into higher altitude sites by generalist predators such as coyotes, wolves, and bobcats which could compete with lynx.

Critical habitat for the Canada lynx (50 CFR 17.95(a)) has been designated for portions of Fremont, Lincoln, Park, Sublette, and Teton Counties, including parts of Yellowstone National Park and the Bridger-Teton and Shoshone National Forests. However, none of these areas are included in the Lander RMP planning area and activities within the Lander RMP planning area are not anticipated to cause adverse modification of Canada lynx proposed critical habitat on other lands.

Table 1. Listed Species "not likely to adversely affect (NLAA)" and "no effect (NE)" determinations made by the BLM.

Species/Critical Habitat Program	Black-footed Ferret	Blowout Penstemon	Canada Lynx	Canada Lynx Designated Critical Habitat	Desert Yellowhead	Desert Yellowhead Designated Critical Habitat	Grizzly Bear	Ute ladies'-tresses
Air quality	NLAA	NE	NE	NE	NLAA	NLAA	NE	NE
Geologic resources	NE	NE	NE	NE	NE	NE	NE	NE
Soil	NLAA	NLAA	NLAA	NE	NLAA	NLAA	NLAA	NLAA
Water	NLAA	NE	NLAA	NE	NE	NLAA	NLAA	NLAA
Cave and karst resources	NE	NE	NLAA	NE	NE	NE	NLAA	NE
Non-WSA lands with wilderness characteristics	NE	NE	NE	NE	NE	NE	NLAA	NLAA
Mineral Resources—locatable minerals	NLAA	NLAA	NLAA	NE	NLAA	NLAA	NLAA	NLAA
Leasable minerals—coal	NE	NE	NE	NE	NE	NE	NE	NE
Leasable minerals—geothermal	NE	NE	NE	NE	NE	NE	NE	NE
Leasable minerals—oil and gas	NLAA	NLAA	NLAA	NE	NLAA	NLAA	NLAA	NLAA
Leasable—oil shale	NE	NE	NE	NE	NE	NE	NE	NE
Leasable minerals—other solid leasable minerals	NLAA	NLAA	NE	NE	NLAA	NLAA	NLAA	NLAA
Salable minerals	NLAA	NLAA	NLAA	NE	NLAA	NLAA	NLAA	NLAA
Fire and fuels management—unplanned/wildfire	NLAA	NLAA	NLAA	NE	NLAA	NLAA	NLAA	NLAA
Fire and fuels management—planned/prescribed fires	NLAA	NLAA	NLAA	NE	NLAA	NLAA	NLAA	NLAA
Fire and fuels management—stabilization and rehabilitation	NLAA	NLAA	NLAA	NE	NLAA	NLAA	NLAA	NLAA
Forests, woodlands, and aspen communities	NE	NE	NLAA	NE	NE	NE	NLAA	NE
Grassland and shrubland communities	NLAA	NLAA	NLAA	NE	NLAA	NLAA	NLAA	NLAA
Invasive species and pest management	NLAA	NLAA	NLAA	NE	NLAA	NLAA	NLAA	NLAA
Riparian—wetland resources	NE	NE	NLAA	NE	NE	NLAA	NLAA	NLAA
Fire and wildlife resources	NLAA	NLAA	NLAA	NE	NLAA	NLAA	NLAA	NLAA
Special status species—plants	NE	NLAA	NE	NE	NLAA	NLAA	NE	NLAA
Special status species—fish and wildlife	NLAA	NLAA	NLAA	NE	NLAA	NLAA	NLAA	NLAA
Wild horses	NLAA	NLAA	NE	NE	--------	NLAA	NE	NLAA
Cultural resources	NLAA	NLAA	NLAA	NE	NLAA	NLAA	NLAA	NLAA
Paleontological resources	NLAA	NLAA	NLAA	NE	NLAA	NLAA	NLAA	NLAA
Visual resources	NLAA	NLAA	NLAA	NE	NLAA	NLAA	NLAA	NLAA
Lands and realty	NLAA	NE	NLAA	NE	NE	NLAA	NLAA	NE
Renewable energy	NLAA	NE	NE	NE	NE	NLAA	NE	NLAA
Rights-of-way and corridors	NLAA	NLAA	NLAA	NE	NLAA	NLAA	NLAA	NLAA
Comprehensive trails and travel management	NLAA	NLAA	NLAA	NE	NLAA	NLAA	NLAA	NLAA
Livestock grazing management	NLAA	NLAA	NLAA	NE	--------	NLAA	--------	--------
Recreation	NLAA	NLAA	NLAA	NE	NLAA	NLAA	NLAA	NLAA
Special designations (ACECs)	NLAA	NLAA	NLAA	NE	NE	NE	NLAA	NLAA
Special designations (Congressionally Designated Trails)	NLAA	NLAA	NE	NE	NE	NE	NE	NLAA
Special designations (Wilderness Study Areas)	NLAA	NLAA	NLAA	NE	NE	NE	NLAA	NLAA
Special designations (Wild and Scenic Rivers)	NLAA	NE	NLAA	NE	NE	NE	NLAA	NLAA
Socioeconomic resources	NE	NE	NE	NE	NE	NE	NE	NE
Health and safety	NLAA	NLAA	NLAA	NE	NLAA	NLAA	NLAA	NLAA

Desert yellowhead. The BA addressed activities that have no effect or are not likely to adversely affect the desert yellowhead. There are currently only two desert yellowhead populations known in the planning area. This determination is based on the lack of impacts due to various program management activities in desert yellowhead habitat and the BLM-committed conservation measures in place to protect the species. The BLM has committed to not authorizing projects closer than 0.25 mile from any known desert yellowhead populations without concurrence of the USFWS and BLM Authorized Officer. Additionally, surveys for the species would be required before authorizing potentially surface disturbing activities in suitable habitat. In addition, surface-disturbing activities are prohibited and mineral leasing activities are subject to an NSO restriction within the desert yellowhead habitat. Based on this information, as well as the BLM's commitment to implement the additional conservation measures contained in Appendix 2, the Service concurs with your 'not likely to adversely affect' determination at the programmatic level (with the understanding that additional site-specific consultations will occur at the project level for any project in the planning area that may affect the desert yellowhead).

Platte River downstream listed species. The BLM has determined that activities described in the Proposed Action, with the exception of certain (1) Mineral Resources-Leasable Minerals, (2) Fish and Wildlife Resources, (3) Livestock Grazing, and (4) Fire and Fuels Management-Unplanned/Wildfire activities will have no effect on the downstream listed species of the Platte River system because water depletions are not expected to occur in conjunction with those authorized activities. When the BLM makes a "no effect" determination, concurrence from the Service is not required, although we do appreciate receiving the information used to make the determination. The four programs identified above may adversely affect Platte River downstream listed species and as such are discussed in the following programmatic BO.

Ute ladies'-tresses. The BA addressed activities that will have no effect or are not likely to adversely affect the Ute ladies'-tresses orchid. The Service concurs with your determinations that activities described in the Proposed Action will have no effect or will not likely adversely affect these plants. The Service's concurrence is based on the facts that: (1) there is no known occupied habitat (Ute ladies'-tresses) managed by the BLM's office in Lander, (2) there is very little perennial stream habitat managed by the BLM in the Lander planning area below 6000' elevation (the Ute ladies'-tresses orchid has never been found above 5800' in Wyoming), (3) in Wyoming, all known Ute ladies'-tresses orchid populations are found on the eastern side of the State in the Short Grass Prairie and Northern Great Plains Ecoregions, (4) populations in Wyoming have never been found in the Wyoming Basins or Utah-Wyoming Rocky Mountains Ecoregions that make up the Lander planning area (Fertig *et al.* 2005), and (5) the commitments by the BLM to implement conservation measures are adequate to ensure that if adverse activities did occur in the habitat of these listed plants, the effects from BLM activities would be sufficiently minimized by protective buffers, timing restrictions, etc. (see Appendix 2). The Service is providing this concurrence at the programmatic planning level with the understanding that future site-specific consultations will be conducted at the individual project level for all BLM authorized activities in the planning area that may affect the Ute ladies'-tresses orchid.

PROGRAMMATIC BIOLOGICAL OPINION

FOR THE WYOMING BUREAU OF LAND MANAGEMENT'S

LANDER RESOURCE MANAGEMENT PLAN

U.S. Fish and Wildlife Service
Wyoming Ecological Services Office
Cheyenne, Wyoming

July 2013

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DESCRIPTION OF THE PROPOSED ACTION

The proposed action examined is the management of U.S. Bureau of Land Management (BLM) lands according to the revised Lander Resource Management Plan (RMP) as well as the BLM's commitment to conservation measures (Appendix 2) listed in the Biological Assessment (BA) for this RMP (BLM 2012). The objective of the Lander RMP is to provide specific management direction to prevent or address potential conflicts among oil and gas development, recreational activities, livestock management, important wildlife habitat, and other important land and resource uses in the Lander Resource Area, as well as to determine the appropriate levels and timing of these activities. Decisions made as a result of the ROD for the Lander RMP will result in amending the existing Lander RMP (BLM 2012).

RMPs are used by the BLM to guide and control future actions and set standards upon which future decisions on site-specific activities are based. RMPs only establish general management policy on a broad scale. RMPs are not used to make decisions that commit resources on a small scale. RMPs also identify desired outcomes, also known as "desired future conditions". These outcomes are expressed in RMPs as goals, standards, objectives, and allowable uses and actions needed to achieve desired outcomes, often referred to as RMP decisions or resource allocations. It is these decisions or resource allocations that the effects determinations in this BO are based. As such, the BLM is still obligated to conduct section 7 consultation at the project-specific level for all BLM-authorized activities that "may affect" a listed species.

The Lander RMP incorporates current laws and regulations and public land resource management initiatives to guide long-range land management decisions for public lands and resources in Carbon, Fremont, Hot Springs, Natrona, and Sweetwater Counties in Wyoming. The BLM administers 2.4 million acres of public land surface and 2.8 million acres of Federal mineral estate within the planning area. The Lander RMP does not include land management decisions where land surfaces and minerals are both privately owned, or owned by the State of Wyoming, or local governments, or those lands that are managed by other Federal agencies.

This formal consultation only addresses adverse effects to listed species which are likely-to-occur as a result of the Lander RMP (1) Mineral Resources-Leasable Minerals, (2) Fish and Wildlife Resources, (3) Livestock Grazing, (4) Fire and Fuels Management-Unplanned/Wildfire activities, and (5) Wild Horses. Informal consultation on other actions that may affect listed species as identified in the RMP were covered previously in this document. The activities of the Lander RMP that may affect, and are likely to adversely affect listed species and their designated critical habitats are presented in Table 2 and discussed below (BLM 2012). Conservation measures were included in the Lander BA (BLM 2012) to address potential adverse effects. The BLM has committed to implementing the conservation measures listed in that conservation strategy as part of their proposed action (RMP)(BLM 2012). Therefore, the Service has evaluated the implementation of these conservation measures as part of the proposed action.

Table 2. Listed species "likely to adversely affect" determinations made by the BLM.

Species/Critical Habitat Program	Platte River Downstream Species and Critical Habitat	Ute ladies'-tresses	Desert Yellowhead	Grizzly Bear
Mineral Resources-Leasable Minerals	LAA	------	------	------
Fish and Wildlife Resources	LAA	------	------	------
Livestock Grazing	LAA	LAA	LAA	LAA
Fire and Fuels Management-Unplanned/Wildfire activities	LAA	------	------	------
Wild Horses	------	------	LAA	------

Mineral Resources-Leasable Minerals

The Mineral Leasing Act of 1920 provides that all public lands are open to oil and gas leasing unless specifically designated by public law. Under the Proposed RMP, 44,945 acres of federal mineral estate are open to oil and gas leasing consideration with standard constraints; 1,260,715 acres are open with moderate constraints; 1,336,867 acres are open with major constraints; and 166,574 acres are closed to oil and gas leasing for the life of the plan. Oil and gas occurs in the planning area in numerous geologic formations. The two oil and gas basins in the planning area are the Wind River Basin and a small portion of the northern part of the Great Divide Basin. In addition, CBNG produced in the planning area originates from coals in the Mesaverde Formation.

At the end of 2007, there were 1,566 active wells and 1,628 inactive wells in the planning area (BLM 2012). Almost all planning area drilling activity (exploratory and development) has been occurring in the eastern Wind River Basin and eastern portions of the WRIR, with additional exploratory activity in the Great Divide Basin portion of the planning area. New wells drilled in the last 10 years are concentrated in the northeast part of the planning area and in the southeastern part of the Wind River Indian Reservation, with a few new oil wells drilled in the northwest and occasional new wells scattered across the south. Of the 719 development wells completed in the last 10 years, 93.7 percent were successful.

In the planning area as of June 2009, there were approximately 994,123 acres of leased federal oil and gas mineral estate and approximately 1,814,978 acres of unleased federal oil and gas mineral estate (BLM 2012). Federal oil and gas leases are incorporated into 35 active unit agreements that lie within or partly within the planning area. A total of 21 companies operate the 35 units. Unique rules apply to unitized leases, which are exempt from state spacing rules. The oldest active unit is the Big Sand Draw Gas unit established in 1934 (BLM 2012). Under the Proposed RMP, the entire Dubois area is closed to oil and gas leasing and geophysical exploration. Surface-disturbing and other activities associated with oil and gas exploration and development include constructing and reclaiming well pads, access roads, and reserve pits; applying dust-control measures; controlling or limiting emissions; constructing reservoirs associated with water disposal; constructing compressor stations, product enhancements, and disposal facilities; building pipelines associated with leases or units; installing powerlines associated with leases or units; and conducting geophysical exploration.

Fish and Wildlife Resources

The BLM is responsible for managing fish-and wildlife habitat on BLM-administered land in the planning area. Fish and wildlife habitats are managed according to laws, regulations, BLM policies, and principles of fish and wildlife management within the BLM multiple-use mandate. The BLM directly manages the habitat that supports both game and nongame fish species where they are found on BLM-administered lands. Fish species known to occur in the planning area are adapted to a variety of stream habitats, from cold, rapid waters at higher elevations to slow, turbid waters of the high desert.

Wildlife resources include big game, trophy game, furbearers, predators, small game, game birds, migratory game birds, and nongame species (raptors, mammals, neotropical migrant birds, reptiles, and amphibians), and their habitats. The Whiskey Mountain bighorn sheep area near Dubois supports one of the largest and most visible bighorn sheep herds in North America. Fish and wildlife habitat projects in the planning area may include the development of reservoirs and springs for wildlife watering purposes.

Livestock Management

Approximately 97 percent of the public lands in the planning area are available for livestock grazing. The other 3 percent is primarily land in highway easements, very rocky areas, or areas that have been mined and have little vegetation. A few allotments have been closed to livestock grazing because of other land use priorities, such as bighorn sheep wintering areas. Actions associated with livestock grazing management include converting to new types of livestock, authorizing livestock grazing, and adjusting season of use, distribution, kind, class, and number of livestock. Other actions include vegetative manipulation treatment projects using prescribed fire, mechanical treatments, seeding, or chemical treatments to modify plant communities. The BLM also installs fences, water developments, spring enclosures, and cattleguards.

Fire and Fuels Management-Unplanned/Wildfire activities

The BLM coordinates its fire management program with the USFS, Wyoming State Forestry Division, County Fire Departments, and local fire protection districts. Unplanned or "wildfires" are fires caused by an act of nature (e.g., lightning) or by human accident or intent. Wildfires include burning in areas where fire is specifically excluded or fires that exhibit burning characteristics (intensity, frequency, and seasonality) outside prescribed ranges. The planning area lies within a region where frequent, larger fires are regularly occurring. Much of the forest, shrublands, and grasslands are vulnerable to wildfires, but under existing conditions the areas that have the greatest potential for large wildfires are within the 15- to 19-inch and 20+-inch precipitation zones where natural fuel loading is greater.

Historically, wildfires have occurred in camping and woodcutting areas from accidental ignition caused by fireworks, campfires, and machinery. Wildfires not caused by humans have been widespread, with natural fires occurring in lightning prone areas.

Both fire suppression activities and fire management actions depend on fire severity and size and the resources endangered by the fire. Fire management practices range from full fire suppression, to limited fire suppression, to designation of areas for prescribed fires. Small fires may require hand and power tools (e.g., pulaskis, shovels, and chainsaws) and water from pumper units or backpack pumps. Larger fires may require additional personnel and equipment. Suppression effects on larger fires may include cutting trees, using mechanized equipment (e.g., bulldozers) to construct wider fire lines, filling water pumper trucks from waterbodies, water drops from helicopter buckets, or air tanker drops of water or chemical retardant. A camp for personnel may be established in a safe location away from the fire and will be large enough to accommodate cooking facilities and equipment and supply areas. Following containment and control of the fire, the BLM may use rehabilitation techniques to stabilize the disturbed or burned area.

Wild Horses

The BLM protects, manages, and controls wild horses and burros under the authority of the Wild Free-Roaming Horses and Burros Act of 1971. This law ensures that healthy herds thrive on healthy rangelands. Horses originally evolved on this continent and disappeared approximately 10,000 to 12,000 years ago. Spanish explorers introduced modern horses to the west in the 1500s. The BLM manages wild horses as part of its multiple-use mission. Most wild horses in the nation are found on BLM-administered lands. The BLM is responsible for managing the size and distribution of the herds. The planning area has approximately 1,000 horses in seven Horse Management Areas (HMAs): Antelope Hills/Cyclone Rim, Crooks Mountain, Green Mountain, Muskrat Basin, Conart Creek, Rock Creek, and Dishpan Butte. Herd management plans identify the appropriate number of horses for each HMA.

STATUS OF THE SPECIES' (Note: For discussion relevant to the Platte River downstream listed species, see page 37 below).

Grizzly Bear Status

Please note that the literature uses three different ecosystem terms related to grizzly bears in northwestern Wyoming, southwestern Montana, and southeastern Idaho: Greater Yellowstone Area (GYA), Greater Yellowstone Ecosystem (GYE), and Yellowstone Grizzly Bear Ecosystem (YGBE). While the definitions of these terms differ slightly, for this biological opinion we regard them as more or less synonymous because the geographic scale at which the distinctions occur does not affect project analyses or potential impacts.

Grizzly Bear Species Description

The grizzly bear *(Ursus arctos horribilis)* is a subspecies of the brown bear (*Ursus arctos*). The grizzly is a large bear with long, curved claws, humped shoulders, and a face that appears to be concave. A wide range of color variation exists ranging from light brown to nearly black. Guard hairs are often paled at the tips giving the pelage a grizzly appearance; hence the name "grizzly". Spring shedding, new growth, nutrition, and climate influence the bear's coloration (USFWS 1993).

In the lower 48 states, the average weight of grizzly bears is 400-600 pounds for males and females average 250-350 pounds. An occasional male may exceed 800 to 1,000 pounds. Adults stand 3.5 feet at the hump when on all fours. They may rear up on their hind legs reaching heights of over 8 feet (USFWS 1993).

The muscle structure of the grizzly bear is developed for massive strength and quickness. This bear can run at speeds of up to 45 miles per hour. Movement is achieved by a normal ambling position on all fours and an upright position on the hind legs that improves the opportunity to see and smell (USFWS 1993).

Grizzly Bear Life History

Home range and dispersal. Grizzly bears require large areas to fulfill all their basic biological needs. Their home ranges average 130 to 1,300 square kilometers (50 to 500 square miles). Within these home ranges the grizzly bear uses a diverse mixture of forests, moist meadows, grasslands, and riparian habitats to complete its life cycle. Grizzly bears generally prefer large, remote areas of habitat for feeding, denning, and reproduction that are isolated from human development (USFWS 1993). Long distance travel habits of some grizzly bears increase the risk of contact with highway crossings, hunters, recreationists, and a variety of other human congregations.

Grizzly bears require dense forest cover for hiding and security. In the Yellowstone ecosystem, lodgepole pine (*Pinus contorta*) forests are a large and dynamic part of grizzly bear habitat. Removal of the total overstory of these habitats through logging may be an ineffective technique for managing these habitats for increased berry production for use by grizzly bears (Mattson 1997b).

Diet. The grizzly bear is an opportunistic omnivore that uses a wide variety of plant and animal food sources. Grizzly bears in the Yellowstone Grizzly Bear Ecosystem (YGBE) (an area consisting of Yellowstone National Park and suitable surrounding areas) have the highest percentage of meat consumption in their diet of any inland grizzly bear population (Hilderbrand *et al.* 1999). About 30 to 70 percent of the diet of the grizzly bears in the YGBE is from some form of animal matter. Meat in the grizzly bear's diet varies by season and available forage. Ungulates are an especially important food source for bears in the spring and fall (Knight *et al.* 1984), and use of these carcasses in Yellowstone National Park (YNP) is well documented (Podruzny and Gunther 2001). Grizzly bears also eat small mammals such as pika and marmots, however, these mammals form a relatively minor portion of the bear's diet. Spawning cutthroat trout in streams surrounding Yellowstone Lake in YNP have been documented as an important food source for grizzly bears there (Mattson and Reinhart 1995). Army cutworm moths are also an important food source for bears in the YGBE (Mattson *et al.* 1991a, b). Army cutworm moths congregate in remote, high altitude alpine talus areas and feed on alpine flowers. These moths provide important dietary fat in the fall, when grizzly bears are preparing for hibernation, and are also positively correlated with bear reproductive success (Bjornlie and Haroldson 2001). During times of great moth abundance, grizzly bears may eat up to 40,000 moths per day totaling 20,000 kcal/day (USGS 2005). Uneaten moths then migrate back to lower elevations to deposit their eggs, leaving the alpine areas between August and October. Army cutworm moth congregation sites are in remote areas, and therefore potentially reduce human-bear conflicts by isolating the bears. Grizzly bears will also eat ants (Mattson 2001) and earthworms (Mattson *et al.* 2002).

The grizzly bear also makes use of a variety of vegetative food sources. Whitebark pine seeds are an important fall source of food for some grizzly bears in the YGBE when cone production is abundant (Mattson and Reinhard 1997). Bears consume whitebark pine seeds obtained from red squirrel cone caches (Mattson and Reinhard 1997). Studies show that in years when the whitebark pine seed crop is low, there is an increase in human-bear conflicts (Haroldson *et al.* 2003). This is likely due to bears seeking alternative food sources, such as exotic clover species (Reinhart *et al.* 2001) and yampa (*Perideridiea gairdneri*), that occur at lower elevations and closer to humans. In addition to supplying a food source high in fat, whitebark pine seed crops also serve grizzly bears by keeping them occupied at high elevations far from intense human use. Other grizzly bear seasonal foliage use includes roots (Mattson 1997a), graminoids, horsetail, forbs, and fruits (whortleberry and huckleberry)(Knight *et al.* 1984, Mattson and Knight 1991). Bears also eat limited amounts of mushrooms.

Den site selection. Grizzly bears generally construct dens in areas far from human disturbance at an elevation of about 6,500 to 10,000 feet. Grizzly bears den from the end of September to the last week in April or early May, with entrance and emergence dates being affected by the gender and reproductive status of the bears. Denning bears can be disturbed by winter sport activities such as snowmobiling, and current studies are focused on minimizing disturbance by controlling access to important denning areas (Haroldson *et al.* 2002, Podruzny *et al.* 2002). If pregnant female bears are disturbed in their dens and this disturbance causes them to relocate to a new den prior to parturition, negative consequences can occur in the form of reduced cub fitness and survival (Linnell *et al.* 2000, Swenson *et al.* 1997).

Grizzly Bear Population Dynamics

Grizzly bear numbers have greatly declined during the past two centuries. It is believed that the grizzly bear population numbered over 50,000 individuals prior to the 18th Century (USFWS 1993). More recently, the estimated total population of grizzly bears as of 1993, stood at 800 to 1,000 individuals (USFWS 1993). The exact size of the grizzly bear population in the area consisting of Yellowstone National Park and suitable surrounding areas (Yellowstone Grizzly Bear Ecosystem YGBE) is currently unknown, as the very nature of the grizzly bear and the rugged terrain it inhabits make any census efforts extremely difficult. As an alternative monitoring index to population abundance, other population parameters have been used to estimate population size (Knight and Eberhardt 1987). In 1996, Eberhardt and Knight (1996) used several different estimates of population parameters to determine a minimum total population size of 245 grizzly bears, an estimated population size of 390 grizzly bears using marked females, and an estimated population size of 344 grizzly bears using distinct family groups. In 2003, the Interagency Conservation Strategy team identified the 2001 minimum population estimate for the grizzly bear population in the YGBE as 365 grizzly bears with a total population estimate of 531. Haroldson and Frey (2004) determined a minimum population estimate of 416 in both 2002 and 2003. The Interagency Grizzly Bear Study Team more recently estimated the population to be at least 600 (IGBST 2012).

Grizzly Bear Status and Distribution

The grizzly bear was listed as a threatened species on July 28, 1975 (USFWS 1975). Historically, the grizzly bear ranged from the Great Plains to the Pacific Coast, and from the northern U.S. border with Canada to the southern border with Mexico. Currently in the contiguous United States, the grizzly population has been reduced to roughly two percent of its former range. It presently only occupies portions of Canadian British Columbia and Alberta, and portions of Montana, Idaho, Wyoming, Washington, and Alaska in the United States.

On November 17, 2005, the Service proposed to establish a Distinct Population Segment of the grizzly bear for the Greater Yellowstone Area (GYA; also referred to in the literature as Greater Yellowstone Ecosystem (GYE) or Yellowstone Grizzly Bear Ecosystem (YGBE)) and surrounding lands, and concurrently delisted it under the ESA (70 FR 69854). The final rule to delist the grizzly bear was published on March 28, 2007, and became effective April 30, 2007. Prior to this final rule, the Service: (1) finalized the 2003 Conservation Strategy (Interagency Conservation Strategy Team 2007) that guides post-delisting monitoring and management of grizzly bears in the GYA, (2) appended the habitat-based recovery criteria to the 1993 Recovery Plan and the Strategy, and (3) appended the 1993 Recovery Plan and the Strategy with an updated and improved methodology for calculating total population size, known to unknown mortality ratios, and sustainable mortality limits for the Yellowstone grizzly bear population.

An order was issued by the Federal District Court in Missoula on September 21, 2009, which enjoined and vacated the Service delisting of the GYA grizzly population. In compliance with this order, the GYA grizzly population is again treated as a threatened population under the ESA. The District Court decision was appealed on two primary issues: (1) adequacy of regulatory mechanisms after delisting (i.e., the Conservation Strategy) and (2) potential threat of whitebark pine decline on the GYE grizzly bear population. The 9th Circuit Court of Appeals rendered a decision in November 2011 and reversed the District Court decision regarding the adequacy of protections provided under the Conservation Strategy but upheld the District Court decision that the Service had not sufficiently articulated that whitebark pine decline was not a threat to the GYE grizzly population (IGBST 2012).

The range of the grizzly bear in the Greater Yellowstone Ecosystem has increased, as evidenced by the 48 percent increase in occupied habitat since the 1970s (Pyare *et al.* 2004, Schwartz *et al.* 2002, USFWS 2007). In addition to increased sampling effort, the increase in distribution likely reflects bears continuing to expand into suitable but unoccupied habitats on the edge of their current distribution.

Conservation

Grizzly bear recovery has involved cooperation among numerous Federal agencies, State agencies, non-government organizations, local governments, and citizens. In recognition that grizzly bear populations were unsustainably low, the Interagency Grizzly Bear Study Team (IGBST) was created in 1973 to provide detailed scientific information for the management and recovery of the grizzly bear in the GYA. In 1983, the Interagency Grizzly Bear Committee (IGBC) was created to coordinate management efforts and research actions across the various recovery zones. Its objective was to change land management practices to more effectively provide security and maintain or improve habitat conditions for the grizzly bear (USFWS 2007).

In 1982, the original Grizzly Bear Recovery Plan was completed (USFWS 1982). In the initial Recovery Plan, the Yellowstone Grizzly Bear Ecosystem, later called the Yellowstone Grizzly Bear Recovery Zone, was defined as an area large enough and of sufficient habitat quality to support a recovered grizzly bear population within which the population and habitat would be monitored (USFWS 1982, USFWS 1993). In 1993, the Service revised the recovery plan to include additional tasks and new information that increased the focus and effectiveness of recovery efforts (USFWS 1993).

In 1979, the IGBST developed the first comprehensive guidelines for management involving grizzly bears in the Greater Yellowstone Area (GYA). Beginning in 1979, the six affected National Forests, Yellowstone and Grand Teton National Parks, and the BLM in the GYA began managing habitats for grizzly bears under direction specified in the guidelines. In 1986, the IGBC modified the guidelines to more effectively manage habitat by mapping and managing according to three different management situations. In areas governed by "Management Situation One," grizzly habitat maintenance and improvement and grizzly bear/human conflict minimization received the highest management priority. In areas governed by "Management Situation Two," grizzly bear use was important, but not the primary use of the area. In areas governed by "Management Situation Three,"' grizzly habitat maintenance and improvement were not management considerations.

The National Forests and National Parks also delineated 18 different bear management units within the Recovery Zone to aid in managing habitat and monitoring population trends. Each bear management unit was further divided into subunits, resulting in a total of 40 subunits within the 18 bear management units. The bear management units are analysis areas that approximate the lifetime size of a female's home range, while subunits are analysis areas that approximate the annual home range size of adult females. Subunits provide the optimal scale for evaluation of seasonal feeding opportunities and landscape patterns of food availability for grizzly bears. The bear management units and subunits were identified to provide enough quality habitat and to ensure that grizzly bears were well distributed across the Recovery Zone (USFWS 2007).

Mortality control is a key part of any successful management effort; however, some mortality, including human-caused mortality, is unavoidable in a dynamic system where hundreds of bears inhabit large areas of diverse habitat with several million human visitors and residents. Low adult female survival was the critical factor causing decline in the GYA population prior to the mid-1980s (Knight and Eberhardt 1985). In the early 1980s, agencies began to control mortality and increase adult female survivorship. During recovery planning efforts, goals were established for three demographic (population) characteristics to objectively measure and monitor recovery of the Yellowstone grizzly bear population:

- Demographic Recovery Criterion 1--Maintain a minimum of 15 unduplicated (only counted once) females with cubs-of-the-year over a running 6-year average both inside the Recovery Zone and within a 10-mile area immediately surrounding the Recovery Zone.
- Demographic Recovery Criterion 2--Sixteen of 18 bear management units within the Recovery Zone must be occupied by females with young, with no 2 adjacent bear management units unoccupied, during a 6-year sum of observations. This criterion is important as it ensures that reproductive females occupy the majority of the Recovery Zone and are not concentrated in one portion of the ecosystem.
- Demographic Recovery Criterion 3 (Original 1993 Version)--The running 6-year average for total known, human-caused mortality should not exceed 4 percent of the minimum population estimate in any 2 consecutive years; and human-caused female grizzly bear mortality should not exceed 1.2 percent of the minimum population estimate in any 2 consecutive years.

There are now revised methods for calculating population size, estimating the known to unknown mortality ratio, and establishing sustainable mortality levels for the Yellowstone grizzly population based on the best available science. These methods and the 2007 Demographic Recovery Criterion 3 were appended to the recovery plan as a supplement (72 FR 11376; 72 FR 11376-11377).

- Demographic Recovery Criterion 3 (Revised 2007 Version)--For independent females (at least 2 years old), the current annual mortality limit, not to be exceeded in 2 consecutive years and including all sources of mortality, is 9 percent of the total number of independent females. For independent males (at least 2 years old), the current annual mortality limit not to be exceeded in 3 consecutive years and including all sources of mortality, is 15 percent of the total number of independent males. For dependent young (less than 2 years old), the current annual mortality limit, not to be exceeded in 3 consecutive years and including known and probable human-caused mortalities only, is 9 percent of the total number of dependent young (IGBST 2005).

In order to provide adequate regulatory mechanisms after delisting and ensure the long-term maintenance of a recovered population, the recovery plan calls for the development of "a conservation strategy to outline habitat and population monitoring that will continue in force after recovery" (USFWS 1993). The purpose of the conservation strategy and associated State and Federal implementation plans is to: (1) describe, summarize, and implement the coordinated efforts to manage the grizzly bear population and its habitat to ensure continued conservation of the Yellowstone grizzly bear population; (2) specify and implement the population, habitat, and nuisance bear standards to maintain a recovered grizzly bear population for the foreseeable future; (3) document the regulatory mechanisms and legal authorities, policies, management, and monitoring programs that exist to maintain the recovered grizzly bear population; and (4) document the actions which the participating agencies have agreed to implement (USFWS 2007).

The conservation strategy identifies and provides a framework for managing two areas: (1) the Primary Conservation Area (PCA) and (2) adjacent areas of suitable habitat where occupancy by grizzly bears is anticipated as per the State plans. The PCA boundaries (containing 9,210 square miles) correspond to those of the Yellowstone Recovery Zone (USFWS 1993) and we will regard the PCA and Recovery Zone as being synonymous throughout this document. The PCA contains adequate seasonal habitat components needed to support the recovered Yellowstone grizzly bear population for the foreseeable future and to allow bears to continue to expand outside the PCA. The PCA includes approximately 51 percent of the suitable habitat and approximately 84 to 90 percent of the population of female grizzly bears with cubs (Schwartz *et al.* 2006).

The conservation strategy is implemented and funded by both Federal and State agencies within the Yellowstone DPS. The USDA Forest Service, National Park Service, and BLM cooperate with the State wildlife agencies (MTFWP, IDFG, and WGFD) to implement the conservation strategy and its protective habitat and population standards. The USDA Forest Service and National Park Service (which collectively own and manage approximately 98 percent of the PCA) are responsible for maintaining or improving habitat standards inside the PCA and monitoring population criteria. Specifically, Yellowstone National Park, Grand Teton National Park, and the Shoshone, Beaverhead-Deerlodge, Bridger-Teton, Caribou-Targhee, Custer, and Gallatin National Forests are the primary areas with Federal responsibility for implementing the

Strategy. Affected National Forests and National Parks have incorporated the habitat standards and criteria into their Forest Plans and National Park management plans via appropriate amendment processes so that they are legally applied to these public lands within the Yellowstone grizzly bear population boundaries (USFWS 2007).

Outside of the PCA, grizzly bears will be allowed to expand into suitable habitat as per direction in the State management plans. Here, the objective is to maintain existing resource management and recreational uses, and to allow agencies to respond to demonstrated problems with appropriate management actions. The key to successful management of grizzly bears outside of the PCA lies in their successfully utilizing lands not managed solely for bears, but in which their needs are considered along with other uses.

This differential management standard (one standard inside the PCA and another standard for suitable habitat outside the PCA) has been successful in the past (USFWS 2007). Lands within the PCA/Recovery Zone are currently managed primarily to maintain grizzly bear habitat, whereas lands outside of the PCA/Recovery Zone boundaries are managed with more consideration for human uses (USFWS 1993). Such flexible management promotes communication and tolerance for grizzly bear recovery.

As the grizzly bear population within the Recovery Zone has rebounded in response to recovery efforts, there has been a gradual natural recolonization of suitable habitat outside of the PCA/Recovery Zone (Pyare *et al.* 2004). Today, most suitable habitat within the DPS boundaries is occupied by grizzly bears (68 percent) but approximately 5,600 square miles are still available for recolonization (72 FR 14866).

Threats

Isolation from human activities is extremely important for bear survival, as grizzly bears habituate to human foods quickly and become pests. Pest bears often must be eliminated or removed from developed areas. Avoiding human-caused bear mortality is a goal of the Recovery Plan and is essential to maintaining a viable grizzly bear population (USFWS 1993).

Primary threats to grizzly bears are associated with motorized and dispersed recreational use and forest management activities, including timber harvest. Recreation use includes hunting, fishing, camping, horseback riding, hiking, biking, off-road vehicle (ORV) use, and snowmobiling. Direct human-caused mortality is the most obvious threat to the grizzly bear. This kind of mortality can occur in several ways: (1) mistaken identification by big game hunters, (2) malicious killing, (3) defense of human life or property, or (4) management removals. Bears are removed to defend human life or property, usually because bears have become dangerously bold as a result of food conditioning and human habituation at campsites, lodges, resorts, and private residences or they become habituated predators of livestock (Knight and Judd 1983).

Human-grizzly bear interactions have been increasing in the ecosystem due, in part, to increasing human use and development, increasing bear numbers, and bears and people both expanding their range of occupancy, increasing the chances of adverse encounters. The frequency of grizzly bear-human conflicts is inversely associated with the abundance of natural bear foods (Gunther *et al.* 2004a); that is, most grizzly bear mortalities are directly related to grizzly bear-human conflicts. The Interagency Conservation Strategy Team reported known human caused mortalities from 1992-98. Of 58 human-caused mortalities, 43 percent were hunting-related, 10 percent were poaching, 28 percent were food conditioned bears, 7 percent were related to livestock and 12 percent were accidental deaths. The greatest increase in recent years is self-defense in fall by big game hunters. During the period from 2009-2011, Gunther *et al.* (2012) identified four areas in the GYE as having 57 percent (385 of 672) of grizzly bear-human conflicts. These included: (1) the Green River area (154 conflicts), (2) the North and South Forks of the Shoshone River (125 conflicts), (3) the Clarks Fork area (56 conflicts), and (4) the Gardiner Basin (50 conflicts). Most (74 percent) of the 2011 bear-human conflicts occurred outside the Recovery Zone.

There are a number of naturally or semi-naturally occurring factors that also may influence Yellowstone grizzly bear population levels. Whitebark pine provides an important food source for grizzly bears. Blister rust, which has severe consequences on whitebark pine in the Northern Continental Divide, has been observed in the Yellowstone area. The Yellowstone cutthroat trout, which is an important food source for grizzly bears in the area, has been negatively influenced by introduced lake trout, which are less available to bears due to their deeper water habits (Reinhart *et al.* 2001). Winter killed ungulates are an important food supply, but ungulate populations vary widely in numbers and are influenced by weather conditions. The reintroduction of wolves has increased competition for ungulate prey and winter-killed carrion. Army cutworm moths, which also provide important food for bears in some areas could be affected by pesticide use in agricultural areas. Recent fires may have impacts on available food and cover over the short term, particularly to individual bears with heavily burned home ranges. Fire over time, stimulates many forage species preferred by bears, provided alternate food supplies and cover is available to maintain bears through the immediate aftermath of the fire.

Grizzly bears have also experienced displacement from available habitat (loss of habitat effectiveness due to human disturbance) due to increased human uses from (1) increased amount of roading (Kasworm and Manley 1989), (2) ORV use and (3) recreation use. They have also experienced loss of existing available habitat due to (1) increased development on private land related to residential housing, and (2) potential for increased development on public land related to oil/gas and recreation development. The grizzly bear also faces a decrease in value of available habitat due to (1) a loss of biodiversity and (2) sub-optimal composition, structure, and juxtaposition of vegetation as a result of fire suppression, management strategies, and advancing succession. Finally, the grizzly bear faces isolation due to fragmentation of available habitat from the activities above including: (1) development of private land, (2) construction of highways that produce blockage or restrict movement, (3) inadequate provision for linkage on minor roads and highways, and (4) large blocks of clearcuts.

Desert Yellowhead Status

Desert Yellowhead Species Description

The desert yellowhead is a tap-rooted, glabrous (hairless) perennial herb with leafy stems to 12 inches in height. The leafy, leathery leaves are alternate, lance-shaped to oval, 1.5 to 10 inches long and often folded along the midvein. Leaf edges are smooth or toothed. Flower heads are many (25 to 180) and crowded at the top of the stem. Each head contains four to six yellow disk flowers (ray flowers are absent) surrounded by five yellow, keeled involucre (whorled) bracts (small leaves beneath the flower). The pappus (attached to the top of the seed) consists of white bristles.

Desert Yellowhead Life History

The desert yellowhead flowers from mid-June to August and may flower a second time in September. The start and end of flowering, as well as the duration of flowering, vary between years and appears to be dependent upon temperature and other climatic variables. Fruits have been observed from mid-July to early September, but do not persist after the flower has dried and bracts ruptured (Heidel 2002).

The desert yellowhead appears to be an obligate outcrosser (cannot self-pollinate) (Heidel 2002), and is likely pollinated by visually-oriented insects attracted to the yellow flowers (Dorn 1991). Ants and nectar-feeding butterflies were noted as frequent visitors to desert yellowhead flowers (Heidel *et al.* 2011).

Fertig (1995) considered the desert yellowhead to be a classic "K" selected species characterized by a long-lived perennial growth form, adaptation to severe habitats, and low annual reproductive output. He reported that approximately 31 percent of all plants observed in demographic monitoring plots were in flower or fruit. Seedlings and vegetative rosettes comprised the remaining 69 percent of the population. Scott (2000) surveyed desert yellowhead plants from 1995-2000 but found a lower percentage of flowering plants. Scott (2000) found that the percentage of flowering plants averaged just 14 percent over 5 study years with a range of 4 to 24 percent of the plants flowering. Fertig (1995) assumed plants to be long-lived. However, observations of marked plants suggested that some fruit-bearing rosettes do not survive to flower again the following season (Fertig 1995).

The age of desert yellowhead plants cannot be determined at any stage in their life cycle, though there are discrete stage classes that tend to correspond with age. Even the seedlings may retain cotyledons for two years. The plant's non-random, clumped distribution pattern suggests that dispersal distances are probably low (Fertig 1995, Heidel 2002).

Each plant has 1 to many rosettes, and any or none of these may produce a flowering stalk in any given year. Each plant flowers more than once over its life cycle (iteroparity). Each flower produces 4 to 6 seeds, and the number of flowers per plant ranges from 25-180, for a total of 100 to 1080 seeds potentially produced per plant. In typical years, germination of seedlings is probably extremely low or absent (Dorn 1991). Germination and establishment is probably episodic and dependent on suitable moisture conditions, and dependent on a natural seedbank (Heidel 2002).

Desert Yellowhead Status and Distribution

On March 14, 2002, the desert yellowhead was listed under the ESA as threatened (USFWS 2002a). At this time, there are two populations known in existence: the Sand Draw population and the Cedar Rim population. Both populations are located in Fremont County, Wyoming and occur entirely on land managed by the BLM's Lander Field Office. The total area occupied by the physical footprint of the two populations of desert yellowhead is approximately 11.9 acres. The Sand Draw population consists of one large subpopulation and two smaller subpopulations approximately 0.25 miles away. The area occupied by plants in the Sand Draw population is 8.5–10.9 acres (Scott and Scott 2009; Heidel *et al.* 2011). The recently discovered Cedar Rim population consists of seven subpopulations. These subpopulations are separated by distances of over 32.8 feet within a 0.25 mile area (Heidel *et al.* 2011; Heidel 2012, pers.

comm.). The habitats of the Sand Draw and the Cedar Rim populations differ not only in their topographic positions (mid-slope vs. base), but also in vegetation structures (bunchgrass community vs. barren cushion plant community)(Heidel *et al.* 2011).

The occupied habitat of the Sand Draw population is restricted to shallow depressions created by erosion in outcrops of Miocene sandstones and limestones of the Split Rock Formation at its junction with the White River Formation (Van Houten 1964, Love 1961). These depressions accumulate drifting snow and may have higher soil moisture than surrounding areas. The vegetation of these sites is typically sparse, less than 10 percent, and consists primarily of low cushion plants and scattered clumps of *Oryzopsis hymenoides* (Indian ricegrass) (Fertig 1995, Heidel *et al.* 2011). Additionally, there is an abrupt border between the occupied habitat of the Sand Draw population and the surrounding sagebrush steppe (Heidel *et al.* 2011).

Desert yellowhead plants in the Sand Draw population are almost exclusively found on poorly developed soils and only occasionally on more well-developed soils (Scott and Scott 2009). Soils within the Sand Draw population have a higher silt content, are slightly more alkaline, slightly lighter in color, and have lower water retaining capacity than soils outside of the population (Scott and Scott 2009; Heidel *et al.* 2011).

In contrast, the seven subpopulations that make up the Cedar Rim population occupy a narrow band along escarpment slopes (Heidel *et al.* 2011). These slopes are generally south-facing, mostly at the intersection between the cushion plant rim and sagebrush grassland toeslope communities on gravelly silt loam derived from the White River Formation (Heidel and Handley 2010, as cited in Heidel *et al.* 2011). Vegetation cover of this area consists of 5 to 20 percent bunchgrasses, including *Pseudoroegneria spicata* (bluebunch wheatgrass) and *Koeleria cristata* (junegrass), accompanied by a diversity of forbs (broad-leaved herbs).

Desert Yellowhead Population Dynamics

Sand Draw population. For the Sand Draw population, between 9,294 and 13,247 individual desert yellowhead plants were counted during the period 1995 through 2004 (Scott and Scott 2009). During that period, the population fluctuated around an annual mean of 11,813 plants.

Cedar Rim population. The Cedar Rim population of desert yellowhead was surveyed following its discovery in 2010. At that time, the seven known subpopulations were conservatively tallied as containing at least 400 plants. An eighth subpopulation was discovered and mapped during the 2011 field season (Heidel 2012, pers. comm.). The data from the 2011 field season has not been compiled at this time. Heidel *et al.* (2011) noted a more complex spatial pattern of the desert yellowhead plants within the Cedar Rim population. The Cedar Rim population has areas of higher density than is typical within the Sand Draw population.

Threats to Desert Yellowhead

The desert yellowhead is vulnerable to extinction from randomly occurring, catastrophic events, as well as from small-scale habitat degradation, due to its small population size and limited geographic range. The species is characterized by its long-lived perennial growth form, adaptation to unique habitats, and low annual reproductive output. This low reproductive output makes the species increasingly vulnerable to extinction due to chance events. Other identified potential threats to the desert yellowhead population include destruction or trampling of plants or modification of habitat from oil and gas development, mineral extraction, motor vehicle and ORV use, invasive species, and livestock grazing (USFWS 2004b, 2012). Invasive weeds if they were to become established at the desert yellowhead site could potentially compete with the desert yellowhead for space, nutrients, and water.

Ute Ladies'-tresses Status

Ute Ladies'-tresses Species Description

Ute ladies'-tresses (*Spiranthes diluvialis*) is a perennial, terrestrial orchid with stems 20 to 50 centimeters (cm) tall arising from tuberously thickened roots measuring up to 1 cm in diameter. It has narrow leaves about 28 cm long and 1.5 cm wide at the base of the stem and becomes reduced in size going up the stem. The flowers, in an inflorescence (flowering spike) of 3 to 30 or more flowers, are small white to ivory arranged in a spiral. The species is characterized by stout flowers that are gaping at the mouth. The sepals and petals, except for the lip, are straight, although the lateral sepals are variably oriented. These lateral sepals spread abruptly from the base of the flower and are free to the base. The rachis is densely pubescent with the longest trichomes, or hairs, 0.2 millimeters long or longer (Sipes and Tepedino 1994, USFWS 1992, 1995).

Ute Ladies'-tresses Life History

Very little is known about the life history of Ute ladies'-tresses (USFWS 1995). Much of what is presumed about the species' life history is drawn from knowledge of other orchids. Orchids generally have very small seeds that require symbiotic associations with mycorrhizal fungi for germination. Many species of orchids are saprophytic, underground plants that may persist for many years underground before emerging above ground. The mycorrhizal stage is reported to last 8 years in *S. spiralis* and green leaves are first produced up to 11 years after germination in that species (Wells 1967). Studies of *S. magnicamporum* in western Kansas and Nebraska report that that species may bloom as rarely as once in 20 years. The mean life expectancy of *S. spiralis* plants studied over a nine year period was calculated to be more than 50 years (USFWS 1995).

Throughout its range, reproduction of the Ute ladies'-tresses orchid appears to be strictly sexual, with bumblebees (*Bombus* spp.) as the primary pollinators (Arditti 1992, Sheviak 1984). Flowers are protandrus (functionally male first and then female). As with other orchid species, it is thought that Ute ladies'-tresses does not reach sexual maturity for 5 to 10 years (USFWS 1995). Each orchid fruit can have several hundred to 10,000 seeds with an average of around 2,000 (Sipes and Tepedino 1994). These seeds may be dispersed by water (Carroll, *pers. comm.*) or wind (Wells 1967). The flowers, seed heads, and vegetative parts of the Ute ladies'-tresses orchid are palatable and can be incidentally eaten by grazing livestock. The possibility that grazers could disperse the seeds of this species has not been evaluated. The blooming period is from early August to early September, with fruits produced in mid-August to September (Fertig 2000). Not all individual mature Ute ladies'-tresses orchids bloom every year and some may remain dormant beneath the ground surface and not show any above ground parts for at least one growing season (Arft 1995).

Populations of Ute ladies' tresses may do well under a regime of somewhat heavy use, i.e., livestock grazing and hay mowing. Grazing may have beneficial effects to the plants, especially in early summer prior to flowering or fruit production (Arft 1995, Moseley 1998). Grazing may mimic the effects of flooding, fire, or other disturbances in maintaining low vegetative cover or reducing weed cover (Moseley 1998). Mowing may be beneficial by reducing competing vegetation cover, but can be detrimental if done before fruits ripen or if hay is cut too low (Arft 1995; Hazlett 1996, 1997). Ute ladies'-tresses does not tolerate dense competition of vegetation, although a few populations are found in riparian woodlands.

The Ute ladies'-tresses orchid inhabits early successional riparian habitats such as moist stream beds, wet meadows, point bars, sand bars, abandoned stream channels, and low lying gravelly, sandy, or cobbley edges (Fertig *et al.* 1994, USFWS 1995, Fertig 2000). Ute ladies'-tresses appears to have a close affinity with floodplain areas where the water table is near the surface throughout the growing season and into early autumn. The species is found in open riparian, floodplain areas where the competing vegetation has been removed by livestock grazing, mowing or by flooding events approximately one month prior to flowering. Ute ladies'-tresses is known to grow in agricultural lands managed for grazing in the winter and hay production in spring and summer, where mowing occurs in mid-July (USFWS 1995). The elevational range of known Ute ladies'-tresses occurrences is 1800-6800 feet (Arft and Ranker 1998).

Ute Ladies'-tresses Population Dynamics

Ute ladies'-tresses population levels and viability are, at least in part, determined by habitat conditions created and maintained by natural water processes. Therefore, the significance of population size and distribution within a watershed can, at least partially, be assessed in terms of the ability of the watershed factors to perpetuate it. However, the linkages between watershed processes, habitat conditions, and Ute ladies'-tresses population response are complex and not completely understood.

The locations of populations within a watershed vary with the availability of suitable habitat. Sizes of populations fluctuate naturally. Some years not a single Ute ladies'-tresses individual appears above ground. The number of flowering adults does not give an accurate picture of population size nor tell us anything about population structure. More information is necessary regarding population viability (USFWS 1995).

If estimated population size is based on the number of Ute ladies'-tresses flowering spikes, then populations appear to fluctuate dramatically in size from year to year (USFWS 1992). For example, the primary site for the Boulder, Colorado population contained 5,435 plants in 1986, 200 plants in 1987, 131 plants in 1988, 1,137 plants in 1989, 1,894 plants in 1990, and at least 80 plants in 1991 (USFWS 1992). This variability in apparent population size is consistent with other observations made of other orchid species.

However, Wells (1967) questions that apparent fluctuations in orchid numbers are accurate descriptions of the actual dynamics of the orchid populations. According to Wells (1967), the criterion adopted for judging whether the number of orchids at a site has changed or not has been the number of flowering spikes displayed at the time of visit. This may be an unsatisfactory criterion for measuring a quantitative change in population because, as has been demonstrated, plants may spend several years as vegetative rosettes or as underground tubers (as many as 11 years) with no above-ground parts. Furthermore, according to Wells (1967), the autumn ladies'-tresses orchid *(S. spiralis)* grows mainly in short grassland which is typically maintained in that condition by some kind of grazing which can damage some of the flowering spikes making a visual estimate of number based on count of flowering spikes unreliable. Arft's (1995) work on Ute ladies'-tresses supports this theory as well.

At the time of listing of Ute ladies'-tresses, most of the species' historic western populations on the Wasatch Front and in the Great Basin were believed to have been extirpated by urbanization. Most known populations contained fewer than 1,000 plants when counted in 1990 and 1991. Eastern Utah populations were also typically small in size. Local extirpations may have taken place in currently unoccupied potential habitat similar to extirpations which occurred along the Wasatch Front, the Great Basin, and certain historic populations in Colorado (USFWS 1992).

In 1992, when the species was listed, the total known population size of Ute ladies'-tresses was fewer than 6,000 individuals from 11 known populations in Colorado, Utah, and Nevada (USFWS 1992). The January 17, 1992, listing of Ute ladies'-tresses resulted in an increase in surveys for the species. Since that time, additional populations have been located in Utah, Montana, Idaho, Nevada, Colorado, Nebraska, Washington, and Wyoming. In 1995, the total known population size of Ute ladies'-tresses was approximately 20,500 individuals (USFWS 1995). Since 1995, another 24 populations have been discovered, including several large occurrences along the Green River in Colorado and Utah, the Snake River in Idaho, and Niobrara River in Wyoming and Nebraska. Ute ladies'-tresses are now known to occupy 674-783 acres of habitat. The highest number of plants recorded in any one year was 38,438 in 1998, based on sampling 23 of 55 populations known at that time. Since these populations were not selected randomly, no useful extrapolations can be made to estimate rangewide numbers based on annual counts (Fertig *et al.* 2005).

Ute Ladies'-tresses Status and Distribution

On January 17, 1992, the Service listed Ute ladies'-tresses as threatened in its entire range under the ESA (57 FR 2053). The Ute ladies'-tresses was first described as a species in 1984 by Dr. Charles J. Sheviak from a population discovered near Golden, Colorado (Sheviak 1984). At the time of its listing, Ute ladies'-tresses was known from 11 populations occurring in Colorado, Utah, and Nevada. Critical habitat has not been designated at this time. To date, no recovery plan has been approved for this species. However, a draft recovery plan has been written (USFWS 1995).

Ute ladies'-tresses was first discovered in Wyoming by the University of Wyoming, Rocky Mountain Herbarium in 1993. Formal surveys for Ute ladies'-tresses then began in Wyoming in 1994, one year after B. Ernie Nelson, manager of the Rocky Mountain Herbarium, discovered the state's first population in Goshen County. Nelson along with other researchers conducted general floristic surveys in southeast Wyoming, the Green River Basin, and Laramie Basin from 1994-1999, finding an additional new colony along Antelope Creek in Converse County in 1994 (Hartman and Nelson 1994). The population on Antelope Creek occurs on BLM-administered land in the Casper Resource Area east of the Lander Resource Area. This population has been censused several times and has remained small (11-35 plants seen during various years). The habitat there is considered marginal and the Antelope Creek population is considered the least viable of the populations within Wyoming (Fertig 2000).

Hartman and Nelson (1994) found that populations discovered in Wyoming occurred on terraces, low slopes, and oxbows adjacent to small streams on sandy to coarse gravelly alluvium or alkaline clays in wet meadow communities (Nelson and Hartman 1995). Based on short-term observation data, the populations that they found were thought to be stable or increasing. The sites were on lands managed for livestock grazing or hay production. Current land uses at the time appeared compatible with the habitat needs of Ute ladies'-tresses orchid populations. The timing of grazing and mowing was thought to be critical for successful seed production (Fertig 2000).

Surveys since 1992 have expanded the number of vegetation and hydrology types occupied by Ute ladies'-tresses to include seasonally flooded river terraces, subirrigated or spring-fed abandoned stream channels and valleys, and lakeshores. In addition, 26 populations have been discovered along irrigation canals, berms, levees, irrigated meadows, excavated gravel pits, roadside barrow pits, reservoirs, and other modified wetlands. New surveys have also expanded the elevational range of the species from 720-1830 feet in Washington to 7000 feet in northern Utah (Fertig *et al.* 2005).

Through coordination with and cooperation from a private landowner, permission was granted in 1996 to search an area along the Niobrara River in Sioux County, Nebraska. Hazlett (1996) counted several thousand Ute ladies'-tresses (Hazlett 1996). The area was previously mown in July of that year for hay and thousands of Ute ladies'-tresses were flowering in the pasture apparently flourishing from the reduced competition following the mowing and baling. The discovery was the first reported case of *S. diluvialis* in the State of Nebraska (Hazlett 1996).

The Wyoming Natural Diversity Database (WYNDD) surveyed public lands in Jackson Hole and the lower Green River Basin in 1999, but did not find any new *S. diluvialis* sites. Staff of the WYNDD also conducted unsuccessful searches in the Powder River Basin, National Elk Refuge, and F.E. Warren Air Force Base from 1995-1997.

Various environmental consulting firms (e.g., ERO Resources 1994) have searched for *S. diluvialis* across Wyoming since 1994. These efforts have not documented any new colonies (Fertig 2000). Because of the plant's irregular flowering pattern, sites which have been surveyed in the past could still harbor populations (Fertig 2000).

Since their discovery in Wyoming, Ute ladies'-tresses populations have been located in Goshen, Converse, Laramie, and Niobrara counties of southeastern Wyoming. The Ute ladies'-tresses orchid is currently known from a small population along a tributary to Antelope Creek (a tributary to the Cheyenne River) in northwest Converse County; a population along Bear Creek in southwestern Goshen County; a population along the Niobrara River near McMaster's Reservoir in southeastern Niobrara County; a population along Sprager Creek in Laramie County, and a recently discovered population along Horse Creek in Laramie County. These populations are monitored on a limited basis and appear to be stable.

To date, no populations have been discovered on land administered by the BLM in the Lander Resource Area (BLM 2012). However, surveys have yet to be conducted on all potential existing orchid habitat on BLM-administered lands within the Lander Resource Area. The variability of Ute ladies'-tresses emerging and flowering every year, makes it difficult to effectively locate populations and inventory them. Future surveys in the Lander Resource Area may find populations of Ute ladies'-tresses on BLM-administered surface and/or split-estate lands on potential habitat along streams, rivers, and riparian areas with sandy or loamy clay soils.

Ute Ladies'-tresses Threats

In 1992, the Service identified habitat loss and alteration (through urbanization, water development, residential development, conversion of open space to parks, agricultural activities); overutilization for commercial, recreational, scientific, or educational purposes; excessive livestock grazing (although mild to moderate grazing may be beneficial); inadequacy of existing regulatory mechanisms; and other factors including localized catastrophic events, competition with invasive plant species, and indiscriminate use of herbicides as the primary threats to the long term conservation of this species. These activities historically have likely been a primary cause of the fragmentation of populations now currently observed. Fertig *et al.* (2005) identified additional threats including ecological succession, road and other construction, recreation, flooding, haying/mowing, natural herbivory, loss of pollinators, and drought. There is increasing pressure for urban, residential, and recreational development in these wetland and riparian areas, especially along the Front Range of Colorado and the Wasatch Front in Utah. As these areas are typically in private ownership, and the projects are often privately funded, there is very little regulatory protection for the orchid there, even though it is a federally-listed species.

Incompatible agricultural or other land management practices could also threaten the Ute ladies'-tresses orchid. The orchid is quite tolerant of grazing and other forms of land and vegetation disturbance. However, continuous grazing during the flowering season, severe trampling and soil compaction, untimely herbicide applications, proliferation of aggressive native and exotic plant species indicative of site degradation, and practices that result in habitat alteration from grass/forb/sedge to shrub/tree dominance, can result in loss of vigor and eventual demise of the orchid and/or orchid pollinators. Many riparian and other wetland and wetland/upland habitats suffer from these impacts, as well.

Alterations of stream hydrology could also threaten Ute ladies'-tresses. The orchid is supported by moist soil throughout the growing season, and by wet habitats that are dominated by grass/forb/sedge communities. During the past 150 years, and continuing today, water developments, diversions, stream channel alterations for flood control or other purposes (including oil and gas development and mining), and changes in hydrograph have altered hydrology, floodplain geomorphology, and vegetation composition and trends. While in some streams and reaches this may have provided improved conditions for the orchid, in many cases it has resulted in the loss of suitable habitat and likely fragmentation or loss of the orchid within watersheds (USFWS 2004c). Although some BLM-authorized activities may affect stream hydrology, the BLM in the Lander Resource Area is committed to not authorizing activities that might adversely affect the hydrology of occupied Ute ladies'-tresses habitat (Appendix 2).

ENVIRONMENTAL BASELINE

Regulations implementing the ESA (50 CFR 402.02) define the environmental baseline as the past and present impacts of all federal, state, or private actions and other human activities in the action area, the anticipated impacts of all proposed state or federal projects in the action area that have already undergone formal or early section 7 consultation, and the impact of state or private actions which are contemporaneous with the consultation process.

The action area is defined at 50 CFR 402 to mean "all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action." For the purposes of this consultation, the Service defines the action area as all lands within the Lander Resource Area in Wyoming that could potentially be impacted by decisions made in the Lander RMP (BLM 2013) to include administering 2.4 million acres of public land surface and 2.8 million acres of split-estate (federal subsurface/non-federal surface).

Historic activities within or adjacent to the action area include residential, urban, commercial, industrial, and agricultural development; road construction; development for recreational use; mining; oil and gas development and its associated infrastructure; airport construction; ski area development; levee construction and maintenance; and dam construction.

Grizzly Bear Environmental Baseline

The action area is defined at 50 CFR 402 to mean all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action. For the purposes of this consultation, the Service defines the action area for the grizzly bear to include the Bureau of Land Management grazing allotments in the Lander administrative area and the areas outside of these grazing allotments where grizzly bear home ranges may overlap between the BLM's grazing allotments and surrounding areas. A formal consultation was recently completed for the adverse effects to the grizzly bear from the Dubois area grazing allotments with the Lander Resource Area (USFWS 2011). Informal consultations have also been recently completed for activities in the BLM's grazing allotments. In addition, other formal consultations have occurred for federal grazing activities adjacent to some of the BLM's grazing allotments in the BLM's Lander planning area.

Authorized grazing by livestock over the grizzly bear's range has declined over the past half century. Sheep numbers have declined substantially since the 1930s due primarily to marginal financial status of the industry. Many sheep allotments have been converted to cattle allotments. Cattle numbers have also declined over the past few decades.

Activities considered in the environmental baseline include livestock grazing allotment authorization for the Shoshone and Bridger-Teton National Forests in northwestern Wyoming and highway reconstruction projects. Specifically, these project activities are the Federal Highway Administration's 287/26 Highway Reconstruction project aka Towgotee Pass Highway (WY5998, August 22, 2003); commercial grazing permits on the Bridger-Teton National Forest's Teton Division (WY4715, December 3, 2002), and Northern Portions of the Pinedale Ranger District (WY13D0075, June 12, 2013), the Shoshone National Forest's North and South Zones (WY11F0246 , March 6, 2012), and the approval of twenty 10-year grazing permit renewals in the BLM's Lander Field Office area (WY11F0218, August 31, 2011).

Portions of BLM-administered lands of the Lander RMP administrative area occur within the Greater Yellowstone Area (GYA)'s Recovery Zone/PCA. Some grizzly bear home ranges in the Recovery Zone/PCA may overlap with BLM-administered grazing allotments in the Lander planning area. Within the GYA, one of the most challenging and controversial aspects of grizzly bear conservation has been management of the grizzly bear-livestock interface. Grizzly bear conflicts with livestock throughout the ecosystem have generally been managed according to the Interagency Grizzly Bear Guidelines, which include a protocol for nuisance bear management. From 1992-2000, a total of 422 grizzly bear conflicts involving cattle were recorded in the ecosystem. In 2011 alone, 86 livestock depredations occurred in the Greater Yellowstone Ecosystem (Cain 2012)

The Shoshone National Forest occurs immediately adjacent to the Lander planning area BLM-administered allotments and occurs within overlapping grizzly bear home ranges. On the Shoshone National Forest from 1986 to 2002, a total of 72 livestock conflicts involving permitted livestock on 14 allotments were recorded. By far, the vast majority of these conflicts involved calves (Gunther *et al.* 2004b, USFS 2003). From 2003-2010, 129 documented livestock depredation conflicts occurred on the Shoshone National Forest. Fifteen management actions were carried out (3 lethal, 12 non-lethal)(USFS 2011). Additionally, food regulations and storage orders, imposed since 1990, promote human safety and reduce the potential for bear-human conflicts by removing grizzly bear access to human food (USFWS 2004d).

Human-grizzly bear interactions have been increasing in the ecosystem due, in part, to increasing human use and development, increasing bear numbers, and bears and people both expanding their range of occupancy, thereby increasing the chances of adverse encounters. The frequency of grizzly bear-human conflicts is inversely associated with the abundance of natural bear foods (Gunther *et al.* 2004a). Most grizzly bear mortalities are directly related to grizzly bear-human conflicts, with the greatest mortality increase in recent years being self-defense in fall by big game hunters.

During the period from 2009-2011, Gunther *et al.* (2012) identified four areas in the GYE as having 57 percent (385 of 672) of grizzly bear-human conflicts. These included: (1) the Green River and Dunoir Creek drainages (154 conflicts), (2) the North and South Forks of the Shoshone River (125 conflicts), (3) the Clarks Fork area (56 conflicts), and (4) the Gardiner Basin (50 conflicts). Most (74 percent) of the 2011 bear-human conflicts occurred outside the Recovery Zone. Most the BLM's Lander RMP Dubois area grazing allotments are located within approximately 10 miles of Dunoir Creek.

Status of the Grizzly Bear Within the Action Area

Grizzly bears are expanding their ranges and currently include, or may include portions of some BLM-administered grazing allotments in the Lander RMP administrative area. With the species expanding its range, conflicts on the BLM-administered grazing allotments can reasonably be expected to occur in the future.

All BLM-administered grazing allotments are located outside of the Grizzly Bear Recovery Zone/PCA. The Grizzly Bear Recovery Zone/PCA is composed of approximately 5,888,000 acres. In contrast, the BLM-administered livestock grazing allotments contain an estimated total of 175,363 acres of occupied or potential grizzly bear habitat--an area approximately 3 percent as large as the Greater Yellowstone Grizzly Bear Recovery Zone. The most recent estimate of the known area occupied by grizzly bears in the YGBE is approximately 50,280 sq. km (19,413 sq. mi) in 2010 (Bjornlie 2013, unpubl. data). There are 29,000 acres of mapped potential grizzly bear use in the Lander RMP administrative area (BLM 2006, Schwartz *et al.* 2002). Grizzly bears are known from the following areas in the Lander RMP administrative area: (1) Pole/Bear Creek, (2) drainages of the East Fork of the Wind River, including lands on the East Fork Big Game Winter Range, (3) Horse Creek and Tappan Creek drainages north of Dubois, and (4) Dunoir Creek and Warm Springs Creek drainages. Additionally, there is the potential for grizzlies to use BLM-administered land in the Jakeys Fork of the Wind River, as there is known use in areas to the north and west of this area. Grizzly bears are also known to use Forest Service lands on the north end of the Lander Slope of the Wind River Range. Parts of the Lander Slope on the Wind River Range contain grizzly bear habitat and will likely be occupied in the future as bears expand their current range. Specific areas include the Lander Slope, Red Canyon, and South Pass areas (BLM 2006).

There were 23 confirmed livestock/grizzly bear conflicts reported in the Dubois area from 2000–2010. There were 18 conflicts on private land, 1 on state land, and 2 on the Shoshone National Forest within 1 mile of a BLM grazing allotment. Of the 23 conflicts, 21 resulted in livestock being killed by grizzly bears and included 16 calves, 3 cows, and 2 foals (USFWS 2011). It appears almost all of those conflicts occurred within 10 miles of the Dunoir Creek area, and most occurred in the years 2001, 2008, and 2010 (6, 7, and 4 conflicts, respectively). In addition, all depredations occurred during the spring and summer months (May through August). One grizzly bear was removed from the population and two were relocated during this period (USFWS 2011).

Factors Affecting the Grizzly Bear Within the Action Area

Factors that could affect the grizzly bear in the action area include livestock management practices; timber harvest activities; recreational activities (hunting, fishing, camping, horseback riding, hiking, biking, off-road vehicle (ORV) use, and snowmobiling); management control actions; residential development; oil, gas, mineral development; educational programs; food storage orders and garbage disposal practices; wildlife and fisheries management practices; realty actions; insect control programs; fire management practices; drought; disease; or insect outbreaks. Factors potentially affecting the grizzly bear from the Proposed Action include increased mortality, change in the quality of habitat, displacement from habitat, and change in the frequency of human/grizzly bear encounters and conflicts.

The potential effects to grizzly bears from these factors are (1) harassment, harm, or death, (2) change in the quality of habitat and availability of food, (3) displacement from habitat, and (4) change in the frequency of human/grizzly bear encounters.

Increased mortality. Big game hunters may mistakingly mis-identify grizzly bears as black bears and kill them. Others may maliciously kill grizzly bears. Some grizzly bears may be killed in defense of human life or property (including livestock) usually because bears have become dangerously bold as a result of food conditioning and habituation at campsites, lodges, resorts, and private residences or they become habituated predators of livestock. Some grizzly bears may be killed as a result of management removals. Bears are removed to defend human life or property.

Change in the quality of habitat. Food and cover are important aspects of grizzly bear habitat. The abundance of important food items can change over time depending on a number of factors. Whitebark pine provides an important food source for grizzly bears. Blister rust, which has severe consequences on Whitebark pine in the Northern Continental Divide has been observed in the Yellowstone area. Winter killed ungulates are an important food supply, but ungulate populations vary widely in numbers and are influenced by weather conditions. Army cutworm moths, which also provide important food for bears in some areas could be affected by pesticide use in agricultural areas. Recent fires may have impacts on available food and cover over the short term, particularly to individual bears with heavily burned home ranges. Widespread use of insecticides could potentially reduce this important grizzly bear food source. Fire stimulates many plant forage species and berries preferred by bears, provide alternate food supplies.

The grizzly bear also faces a decrease in value of available habitat due to (1) a loss of biodiversity (especially early succession related vegetative types), and (2) sub-optimal vegetation quality as a result of fire suppression, management strategies, and advancing succession. Grizzly bears also face isolation due to fragmentation of available habitat due to (1) major development of private land, (2) construction of major highways that block or restrict movement, (3) inadequate provision for linkage on minor roads and highways, and (4) large clearcuts.

Displacement from habitat. Grizzly bears have experienced displacement from available habitat due to increased human uses from (1) roading, (2) ORV use, and (3) recreation use. They have also experienced displacement due to (1) development on private land related primarily to residential housing and (2) development on public land related primarily to oil/gas and recreation development. Realty actions such as conversion of grazing lands to residential or mineral development can result in displacement of the bears from previously suitable habitat.

Change in the frequency of human/grizzly bear encounters and conflicts. With increased education and improved management of grizzly bear habitat, there is expected to be a decrease in the frequency of human/grizzly bear encounters and conflicts. Food storage requirements and proper disposal of garbage, pet food, and livestock carcasses and removal of domestic sheep from grazing allotments is expected to reduce the number of instances of conflict situations as has been witnessed in the grizzly bear recovery zone (Schwartz *et al.* 2002).

Desert Yellowhead Environmental Baseline

The action area is defined at 50 CFR 402 to mean "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." For the purposes of this consultation, the Service defines the action area for the desert yellowhead to include areas of suitable habitat for the desert yellowhead in the Lander planning area including approximately 360 acres of habitat identified as necessary for the desert yellowhead located on public lands managed by the BLM approximately 6 miles north of Sweetwater Station in Fremont County, Wyoming. Historic activities within or adjacent to this area include livestock grazing, mining, rare plant monitoring, ORV use, and trail establishment. Since the listing of the desert yellowhead in 2002, two formal Section 7 consultations have been completed in response to authorized BLM activities' effects to the desert yellowhead. Both of these consultations (WY8638, March 23, 2005; WY9485, June 7, 2005) covered the effects of the BLM's Lander RMP to the desert yellowhead.

Status of the Desert Yellowhead Within the Action Area

The desert yellowhead is currently known from two populations located entirely on Federal land managed by the BLM (Dorn 1991). These populations (the Sand Draw population and the Cedar Rim population) are contained entirely within the action area.

The Sand Draw population is made up of one large subpopulation and two smaller subpopulations within 0.25 mile of that area with plants widely scattered over an area of 50 acres. Detailed census efforts conducted from 1995 to 2003 indicated that the Sand Draw desert yellowhead population size fluctuates annually but overall appears to be fairly stable and has varied from 9,293 to 13,244 individuals during the time the census was conducted (BLM 2004). The fluctuations in plant numbers appear to be due to natural factors such as precipitation level rather than human-caused factors.

The Cedar Rim population is made up of eight subpopulations that occupy a narrow band along escarpment slopes (Heidel *et al.* 2011; Heidel 2012, pers. comm.). These slopes are generally south-facing, mostly at the intersection between the cushion plant rim and sagebrush grassland toeslope communities on gravelly silt loam derived from the White River Formation (Heidel and Handley 2010, as cited in Heidel *et al.* 2011). Vegetation cover consists of 5 to 20 percent bunchgrasses, including *Pseudoroegneria spicata* (bluebunch wheatgrass) and *Koeleria cristata* (junegrass), accompanied by diverse forbs (broad-leaved herbs). The Cedar Rim subpopulations are separated by distances of over 32 feet, and are located within a 0.25 mile area (Heidel *et al.* 2011; Heidel 2012, pers. comm.). The Cedar Rim population was surveyed following its discovery in 2010. At that time, the known subpopulations were conservatively tallied as containing at least 400 plants. An additional subpopulation was discovered and mapped during the 2011 field season (Heidel 2012, pers. comm.). However, the data from the 2011 field season have not been compiled at this time.

Factors Affecting the Desert Yellowhead Within the Action Area

Livestock grazing currently occurs at both desert yellowhead sites, which are part of the Big Pasture grazing allotment. Livestock grazing may detrimentally impact individual desert yellowhead plants through crushing, trampling, or incidental grazing parts of the plants by livestock. Livestock trails may redirect surface runoff and create areas of sheet and rill erosion which may be colonized by desert yellowhead plants. The permittees who currently graze cattle in the Big Pasture allotment are aware of the presence of desert yellowhead and have discussed with BLM specialists at the Lander field office the effects and impacts of grazing on the plant population. To date, the permittees have cooperated with the BLM in such matters as restricting mineral supplements within 2 miles of the site and avoiding supplemental livestock feed, and not herding their cattle within 0.25 mile of the desert yellowhead site. Wild horse management activities, such as temporary gathering/holding facilities, could also cause damage to the plants and habitat if they were located at the desert yellowhead sites. New construction of range improvement projects, such as fencing, water developments, and vegetation manipulation projects, are discretionary and subject to the BLM's surface disturbing mitigation guidelines. In addition, the BLM is committed to not permitting an increase in current permitted livestock stocking levels in the Big Pasture Allotment (BLM 2004).

Competition from plants not native to the area could pose a threat to the desert yellowhead. Prior to 2010, no nonnative plants had been identified within or in the general vicinity of desert yellowhead (Scott and Scott 2009, Heidel *et al.* 2011). During surveys of the Cedar Rim population, one nonnative species, *Alyssum desertorum* (desert madwort), was found in one plot (Heidel *et al.* 2011). Currently, the Fremont County Weed and Pest (FCWP) district does not officially designate *A. desertorum* as an invasive species or a species of concern (FCWP 2012a, 2012b).

Ute Ladies'-tresses Environmental Baseline

Ute ladies'-tresses are not known to occur in the Lander planning area, but potentially could occur in the floodplain areas of the planning area, as many of these areas, to date, remain unsurveyed for the presence of Ute ladies'-tresses. Floodplain areas are located where the water table is near the surface throughout the Ute ladies'-tresses growing season. The past and present impacts to Ute ladies'-tresses in the action area may have included increases, and decreases, in habitat suitability due to irrigation developments and other human-caused changes to stream hydrology. Human-caused changes to stream hydrology have taken the form of channelization of streams, construction and use of irrigation canals, water impoundment (pond) construction, increased water discharges to surface waters, and water depletions from surface waters. These activities were and continue to be widespread across the Lander Resource Area.

Invasive plant species do occupy much of the resource area with resulting herbicide control by private citizens and/or the County Weed and Pest Districts. It is not known if any invasive plants may be adversely affecting Ute ladies'-tresses within the action area.

Grazing, haying and mowing activities are normally undertaken by private land owners as part of their agricultural operations. Grazing activities on BLM-administered lands are authorized by the BLM through a permitting process. These activities may be beneficial to Ute ladies'-tresses plants through the maintenance of habitat or they may be detrimental in that these activities if not timed properly may reduce the reproductive success of individual Ute ladies'-tresses plants.

Another impact to Ute ladies'-tresses plants in the action area may be herbivory by wildlife. Herbivory of the flowering spikes of *S. diluvialis* by voles (Arft 1994), deer (Fertig 2000), and moose (Moseley 1998) has been documented at some locations. Wells (1967) documented significant flowering stalk herbivory of the autumn ladies'-tresses orchid (*S. spiralis*) by rabbits. Arft (1994) speculated that vole herbivory could be the greatest single threat to the long-term survival of Ute ladies'-tresses at one study site. It is plausible that similar damage to Ute ladies'-tresses plants in the action area could be attributed to wildlife as well.

Numerous other existing actions including construction of electricity transmission lines, mining operations, and erection of telecommunication towers are present in the action area. These have been considered as part of the environmental baseline for this action.

Status of the Ute Ladies'-tresses Within the Action Area

Ute ladies'-tresses is currently not known to occur in the Lander Resource Area. If this species is present in the Lander Resource Area, then grazing activities may positively benefit Ute ladies'-tresses by reducing competing vegetation; however, if not timed properly, grazing can reduce the reproductive success of individual Ute ladies'-tresses plants. Wildlife herbivory of the flowering spikes of Ute ladies'-tresses orchids by voles (Arft 1994), deer (Fertig 2000), and moose (Moseley 1998) does occur at some locations across the species' range. Wells (1967) documented significant flowering stalk herbivory of the autumn ladies'-tresses orchid by rabbits.

There has been one formal consultation for Ute ladies'-tresses within the action area. This consultation (WY06F0205b, April 2007) analyzed potential effects from BLM RMPs statewide in Wyoming. Eight formal section 7 consultations have been completed which analyzed potential adverse effects to Ute ladies'-tresses orchids in other areas of Wyoming. Two of these analyzed potential adverse effects associated with coalbed natural gas development in the Powder River Basin (WY4287, March 2001; ES-6-WY-02-F006, December 2002)(USFWS 2002b) of Wyoming. Two consultations analyzed surface disturbance in Ute ladies'-tresses habitat associated with pipeline construction (WY2567, July 16, 1999) and railroad expansion (ES-6-WY-01-F008, October 2001), respectively. One consultation (WY10F0067, March 2010) analyzed effects to Ute ladies'-tresses from 7 grazing allotments in the BLM's Casper Resource Area. The remaining three consultations (WY06F0309d, November 2007; WY8796b, October

2004; WY06F0212e, January 2007) analyzed potential effects from the Casper, Newcastle, and Rawlins RMPs in Wyoming, respectively.

The BLM supports efforts to locate the orchid on BLM-administered or nearby state or private lands (Hazlett 1995, 1997, 1999). Surveys have been conducted in what appeared to be suitable habitat in some parts of the action area but no Ute ladies'-tresses have been found to date. Future surveys may reveal that additional populations occupy BLM-administered surface lands, or on private lands where the BLM may have some discretionary authority of grazing management through the allotment management plans of allotments containing isolated BLM-administered grazing parcels in the action area.

Within the Lander Resource Area, potentially suitable habitat exists along creeks, streams, and riparian areas that may support Ute ladies'-tresses. Locations where population of Ute ladies'-tresses may be discovered in the Lander Resource Area include but are not limited to moist meadows along streams.

Factors Affecting the Ute Ladies'-tresses Within the Action Area

Factors that could affect this orchid in the action area include irrigation developments and other human-caused changes to stream hydrology, introduction of invasive species, herbicide use, haying, mowing, livestock (or wild horse) grazing. Human-caused changes to stream hydrology may take the form of channelization of streams, construction and use of irrigation canals, water impoundment (pond) construction, increased water discharges to surface waters, and water depletions from surface waters. These activities are widespread across the planning area. Many historic projects exist that have changed stream hydrology or water quality or have caused increases in erosion and/or sedimentation rates. Invasive plant species occupy much of the planning area and herbicide use to control these invasive species are undertaken by private citizens or performed by County Weed and Pest Districts.

Depending on the time of year when it occurs, grazing may be either detrimental or beneficial to Ute ladies'-tresses populations. If grazing occurs during the flowering stage, grazing may reduce the plant's reproductive capacity through removal of the inflorescences (flowering spikes) of individual Ute ladies'-tresses plants. However, if timed to occur prior to or subsequent to the plant's flowering stage, grazing may also be beneficial by reducing the density of competing vegetation thereby helping to maintain the plant's habitat.

EFFECTS OF THE ACTION

Direct and Indirect Effects

Direct effects are effects that result directly or immediately from the proposed action on the species. For example, actions that would immediately remove or destroy habitat or displace the species from its habitat or an area would be considered direct effects. Indirect effects are effects that are caused by, or result from, the proposed action and occur later in time after the proposed action is completed, e.g., grazing over the life of the RMP (10-15 years) may maintain habitat for listed plants that may occupy the area 15 years from present.

The Proposed Action is the management of the Lander Resource Area in Wyoming for up to 10-15 years. Given the length of the proposed action and the difficulty in distinguishing direct from indirect effects, the two types of effects are not differentiated here but instead are discussed jointly.

Effects on the Grizzly Bear

The Lander RMP BA describes activities in the Livestock Grazing program that may affect and are likely to adversely affect the grizzly bear within the field office boundaries. Livestock grazing management actions that occur in occupied grizzly bear habitat would be expected to disturb resident grizzly bears (BLM 2012). The effects of livestock grazing management could include displacing grizzly bears, lethally controlling grizzly bears due to conflicts, and disruption of behavior patterns and social systems due to the presence of livestock. The BLM determined that the issuance of grazing permits could adversely impact grizzly bears on some allotments. Livestock grazing is allowed on over 95 percent of BLM-administered land in the planning area. Portions of the Dubois area, where much of the grizzly bear habitat in the planning area is located, is closed to livestock grazing in areas of identified resource conflict including within the East Fork and Whiskey Mountain ACECs. While BLM-authorized grazing allotments do not overlap with the Grizzly Bear Recovery Zone/Primary Conservation Area, there is overlap with grizzly bear transition habitat (BLM 2011). Since 2006, there has been a substantial increase in grizzly bear sightings and conflicts in the Dubois area (BLM 2011). The recent BA developed by the BLM for livestock grazing lease issuance in the Dubois area, provides an allotment-specific assessment of the potential for livestock/grizzly bear conflict near Dubois (BLM 2011). Future management under the revised RMP will be consistent with management as it was described in the 2011 allotment-specific assessment.

According to the BLM (BLM 2012), livestock/grizzly bear conflict has the potential to result in both direct and indirect adverse effects on grizzly bear. Approximately 23 incidents of livestock depredation by grizzly bear have been recorded in the Dubois area from 2000-2010, with most occurring on neighboring USFS-administered land (BLM 2011). During the spring months, when bears emerge from their dens, livestock are most vulnerable to depredation by grizzly bear. Elk, mule deer, and bighorn sheep are primary prey of grizzly bear and their presence in crucial winter/yearlong range in the spring months is likely to draw bears into the area where livestock may graze. Although the BLM is not responsible for trapping and relocating depredating grizzly bears, actions such as the authorization of livestock grazing permits and the installation of rangeland improvement projects in grizzly bear habitat could lead to the development of problem behavior patterns in grizzly bears. Consequently, BLM actions could lead to trapping and relocating of grizzly bears. Trapping and relocation of a grizzly bear has the potential to result in accidental injury or death of a bear through injury during trapping or accidental overdose of immobilization drugs. Furthermore, relocated bears may continue depredating behaviors in the new area, resulting in future removal from the population later in time.

Livestock grazing in occupied grizzly bear habitat also has the potential to result in illegal, accidental, or defensive take by grazing permittees in the act of trying to protect their livestock (BLM 2012). A potential risk exists for take of grizzly bears as a result of accidentally encountering bears feeding on livestock carcasses. Disposal of livestock carcasses also has the ability to adversely impact grizzly bear through more indirect effects. Indirect effects of livestock grazing includes conditioning of grizzly bears to view livestock as prey; loss of reproductive potential for grizzly bear removed from the population; disturbance to grizzly bear behavior patterns, social systems, and activity patterns; and declines in foraging efficiency and survival of relocated bears.

In summary, potential adverse effects to grizzly bears from livestock grazing may occur directly from harassment, harm, or death; for example, disturbance to bears by human-associated activities within allotments, illegal, accidental, or self-defensive killing by humans unexpectedly encountering grizzly bears on allotments, or from management actions (trapping and relocating bears or removing them from the population). Indirect effects from grazing may include a change in the quality or quantity of habitat and availability of food, grizzly bears becoming conditioned or habituated to livestock as prey, a reduction in their foraging efficiency, loss of reproductive potential when relocated or euthanized, or changes to their behavior and activity patterns.

One of the most challenging and controversial aspects of grizzly bear conservation in the Yellowstone ecosystem has been management of the grizzly bear-livestock interface. Grizzly bear conflicts with livestock throughout the ecosystem have generally been managed according to the Interagency Grizzly Bear Guidelines, which include a protocol for nuisance bear management. Although livestock depredations in the GYA are on-going and may not always be avoided, and direct or indirect mortality to depredating grizzly bears applies toward GYA mortality thresholds, the number of allotments and distribution of livestock in the ecosystem have not prevented achieving grizzly bear demographic recovery criteria.

In order to minimize the chances that grizzly bears will conflict with livestock grazing and associated human activities, the BLM has committed to implement its RMP Conservation Measures provided in Appendix 2. We do not expect management relocations or removals to a limited number of grizzly bears from the grazing allotments to have a significant impact on the grizzly bear population as a whole in the GYE.

Analysis for Effects of the Action on the Grizzly Bear

Livestock Management. BLM-authorized grazing allotments do not overlap with Grizzly Bear Recovery Zone but instead overlap only with grizzly bear transition habitat. However, livestock grazing on BLM-authorized grazing allotments, and the associated human presence and livestock carrion associated with livestock management, could still have detrimental effects to the grizzly bear (Knight and Judd 1983). As grizzly bear habitat overlaps with BLM-authorized grazing allotments, grizzly bears could begin to prey on livestock. Unacceptably high levels of livestock depredation by grizzly bears may lead to control of grizzly bears, depending upon the specific circumstances. The Plan for Determining Grizzly Bear Nuisance Status and for Controlling Nuisance Grizzly Bears (pages 51-70 in the Interagency Grizzly Bear Guidelines) (ICBC 1986) outlines management direction agreed upon by participating agencies with respect to determination of grizzly bear nuisance status, and the capture, translocation, release and/or disposal of nuisance grizzly bears. These guidelines indicate a grizzly bear in Management Situation Areas 1 or 2 may be determined to be a nuisance if "the bear causes significant depredation to lawfully present livestock or uses unnatural food materials (human and livestock foods, garbage, home gardens, livestock carrion, and game meat in possession of man) which have been reasonably secured from the bear resulting in conditioning of the bear or significant loss of property." Additionally, these guidelines include examples of reasonably secure conditions, such as "livestock use did not occur in habitat components critically important to grizzlies in time or space" and "livestock and wildlife carcasses were removed, destroyed, or treated so that the material would not reasonably be expected to attract grizzlies." Therefore, depredating grizzly bears on the BLM-administered allotments may be determined a nuisance if the cattle are not grazing in an area considered critically important to the bear and if livestock carcasses have been made unavailable to the bear. Once determined a nuisance, control may consist of either relocating or removing the bear from the population, depending upon the age and sex of the bear, as well as the number of previous offenses the bear may have. For example, a depredating young female grizzly bear will be removed from the population only in response to her third offense. A depredating old adult male grizzly bear may be removed from the population on his first offense.

Although the BLM is not responsible for trapping and relocating depredating grizzly bears, BLM actions such as the authorization of livestock grazing permits could lead to the development of problem behavior patterns in grizzly bears. Thus, BLM actions could lead to trapping and relocating of grizzlies. Trapping and relocation of a bear has the potential to result in accidental injury or death of a bear through physical injury during trapping or accidental overdose of immobilizing drugs. Additionally, depending on the age, sex, and condition of the bear, its lack of knowledge of the habitat and its food resources at its release site may result in starvation or conflict with resident bears.

In most cases, relocation provides only a short-term solution to an immediate crisis with a high return rate due to the homing ability of bears. However, relocation may provide time to resolve the problem creating the conflict. Knight *et al.* (1988) state that while translocation of bears from population sinks may remove them temporarily from situations of high risk of death, the best management strategy remains elimination of those food sources that attract bears, thus supporting efforts to minimize food availability through carcass removal. Blanchard and Knight (1995) believe that transporting grizzly bears should be considered a final action to eliminate a conflict situation, because of low survival and high return rates. However, Blanchard and Knight (1995) also found subadult females returned the least of all groups and indicated transporting females must be considered a viable management technique because transports of some individuals have resulted in contributions to the population through successful reproduction.

Habituation to humans and human activities can also lead to conflicts with grizzly bears which may ultimately lead to their translocation, harm, or death (McClellan 1989). Human presence and activities in grizzly bear occupied habitats may lead to bear-human encounters, often with negative consequences for the bear. In their study of the effects of access on human-caused mortality of Yellowstone grizzly bears, Mattson and Knight (1991) revealed that mortality rates associated with all levels of access (roads, developments, back-country) have decreased over time. They point out that most of this observed improvement is due to better management/removal of attractants such as garbage and other edibles that have been a major cause of bear deaths in the past; and that these may have been the easiest reductions to achieve.

Habituation, the loss of a bear's natural wariness of humans, results from continued exposure to human presence, activity, noise, etc., without negative consequences. A bear habituates to other bears, humans, or situations when such interaction gives it a return in resources, such as food, that outweighs the cost of the stress that precedes habituation. Similarly, bears may habituate to people when such interactions result in access to a source of natural food in the vicinity of human use areas (McArthur-Jope 1980). Increases in human access and subsequent increased human use in grizzly bear habitat can lead to bear habituation to humans, which in turn increases the potential for bear-human conflicts. Habituated bears often end up obtaining human food or garbage and learn to associate people with food. As a result, they can be removed from the population. Such habituated or food-conditioned bears are also more vulnerable to illegal killing because of their tolerance of people.

These conflicts could result in the relocation, harm, or death of any given grizzly bear. Relocation of grizzly bears to new habitats may cause a reduction in the relocated bear's fitness if that bear is placed in direct competition with other more dominant bears at that new location or if the relocated bear cannot otherwise find enough resources at the new location to sustain its existence.

Since BLM-authorized grazing allotments do not overlap with the Grizzly Bear Recovery Zone, livestock grazing activities on BLM-authorized grazing allotments are not expected to affect the core population of grizzly bears in the Greater Yellowstone Ecosystem. It is expected that some young grizzly bears which have been driven out of their natal habitats by older grizzlies may move on to the Lander BLM's grazing allotments to seek new territories simultaneously expanding the range of the species. It is these grizzly bears, seeking new territories or forced to occupy sub-optimal habitat through competition with more dominant bears, which could be adversely affected by the BLM's authorization of livestock grazing in the Lander Resource Area.

The Greater Yellowstone grizzly population has expanded since the bear was first listed in 1975 (USFWS 1975) and recovery goals were first achieved in 1994. The grizzly bear in the Greater Yellowstone Ecosystem was recently proposed for removal from the list of endangered and threatened species (USFWS 2005a). It is not expected that the removal or relocation of grizzly bears in the transition habitat of the BLM-authorized grazing allotments will have a significant impact on the grizzly bear population as a whole in the Greater Yellowstone Ecosystem.

In order to minimize the chances of grizzly bear/livestock/human conflicts on BLM-authorized lands, the BLM has committed to implementing a number of conservation measures. Conservation measures are designed to reduce the potential for human-bear encounters and related bear mortality, and provide secure habitat for females to raise their young. Conservation efforts include reduction in bear access to human food and garbage, evaluation of road densities, research on availability of grizzly foods, and other studies of bears and their habitat. In order to minimize the effects of its actions on the grizzly bear, the BLM has committed to ensuring that; (1) authorized activities planned to occur in currently occupied grizzly bear habitat shall be analyzed and planned with active grizzly bear protection measures, (2) restrictions on timing of activity and spatial considerations for grizzly bears, or other parameters, will be implemented to avoid or prevent significant disruptions of normal or expected bear behavior and activity in the area, (3) a packet of educational materials will be provided to authorized permittees in grizzly habitat, including, but not limited to, special recreation permittees, livestock permittees, and timber operators, (4) bear-resistant refuse containers will be installed in occupied grizzly bear habitat in those developed campgrounds and picnic areas where refuse containers are provided and maintained, (5) the public will be informed of proper storage techniques for food and refuse in areas receiving dispersed recreational use, (6) operation plans and special use permits in occupied grizzly bear habitat will specify food storage and handling and garbage disposal standards, (7) all temporary living facilities under temporary use permits in occupied grizzly bear habitat will be required to practice proper food storage and keep all potential attractants stored so they are unavailable to bears, (8) edibles and/or garbage will be secured from access by grizzly bears, (9) bear proof refuse containers, and timely refuse collection to prevent overflow, will be required, (10) important grizzly bear food resources that may occur on BLM-administered land, particularly whitebark pine, army cutworm moths, ungulates (primarily elk calving grounds), and spawning cutthroat trout, shall be noted and monitored and other important foods may be added to those listed above as our understanding of grizzly bear food resources on BLM-administered land grows, (11) commercial cutting or other removal of whitebark pine will be analyzed when it occurs in occupied or potential grizzly bear habitat, (12) implementation of strategies to reduce human-bear and domestic livestock-bear conflicts by conducting an evaluation of the causes of such conflicts when they do occur and determining what can be done to avoid or reduce such conflicts in the future, (13) existing roads, drilling pads, and other areas with vegetation removed due to authorized activities in occupied grizzly bear habitat will be revegetated and reclaimed by lessee/permittee/grantee in a fashion that considers all grizzly bear needs or requirements.

Summary of Effects on the Grizzly Bear

It is anticipated that grazing actions potentially authorized under the Lander RMP, if undertaken, could result in negative impacts to grizzly bears due to harm, death from control actions (including control actions associated with grizzly bear depredation events on livestock), or a reduction in fitness (individual fitness and reproductive fitness) of individual grizzly bears. Livestock grazing management according to the Lander RMP could lead to the relocation or shooting (both authorized and unauthorized) of individual grizzly bears. In order to minimize effects from its actions, the BLM has committed to implementing a suite of conservation measures to plan and conduct its activities and educate its personnel, permittees, and the public so that the grizzly bear's welfare will be a top priority in the bear's habitat on BLM-administered lands. Conservation measures are designed to reduce the potential for human-bear encounters and related bear mortality, and provide secure habitat for females to raise their young. Conservation efforts include reduction in bear access to human food and garbage, evaluation of road densities, research on availability of grizzly foods, and other studies of bears and their habitat.

Effects on the Desert Yellowhead

The BLM's Lander RMP describes activities in the livestock grazing program and the wild horse program that may affect and are likely to adversely affect the desert yellowhead. These effects are the crushing, trampling, or incidental grazing of desert yellowhead leaves. These effects may comprise the reproductive capacity of any given desert yellowhead plant.

Analysis for Effects of the Action on the Desert Yellowhead

Livestock Grazing (and Wild Horse) Management.

Livestock grazing could have detrimental effects to the desert yellowhead. The desert yellowhead populations are in a grazing allotment where trampling may occur as livestock casually move along trails while grazing or moving to water (2012). Scott (2000) noted signs of moderate wild horse traffic adjacent to the habitat. Crushing, trampling, and incidental grazing of desert yellowhead, by livestock, wild horse, or wildlife could occur and may compromise the reproductive capacity of any given plant. However, these impacts at their current level do not appear to be affecting the desert yellowhead populations as a whole. Occasional trampling may damage leaves or flowers, but it has been witnessed that the plant grows back if its roots are not damaged (BLM 2004). Desert yellowhead plants do not appear to be selectively grazed by cattle and are presumed to be unpalatable. Trampling and crushing of desert yellowhead plants by grazing animals occurs at the present time at a very low frequency. Any redirecting of water movement through the habitat by the establishment of animal trails may be favorable to desert yellowhead plants as the plants at times colonize these areas possibly taking advantage of the erosive sheet, wind, and rill processes occurring there. Desert yellowhead plants have existed with livestock grazing for at least 100 years. Grazing of the area by livestock, wild horses, or wildlife may be beneficial to desert yellowhead plants in that the grazing may remove competing palatable vegetation which would otherwise compete with the apparently unpalatable desert yellowhead plants.

To protect the desert yellowhead from activity involving livestock and wild horse management, the BLM is committed to (1) not increasing current permitted [livestock] stocking levels, (2) not approving location of mineral supplements or additional water sources for livestock, wild horses, or wildlife on public lands within 2 miles of the desert yellowhead site, (3) allowing supplemental feeding or straw within the grazing allotment only with proper authorization, (4) not allowing livestock herding within 0.5 mile of the desert yellowhead site, or its designated critical habitat, (5) and not conducting wild horse management actions (e.g., temporary gathering/holding facilities) within desert yellowhead designated critical habitat.

According to the BLM, grazing and wild horse management actions, as presented in the Lander RMP, may affect, and are likely to adversely affect individual desert yellowhead plants. However, current livestock grazing practices at the site have not proven detrimental to the populations (BLM 2004).

Summary of Effects on the Desert Yellowhead

It is anticipated that actions related to livestock grazing and wild horse management authorized under the Lander RMP could result in negative impacts to the desert yellowhead due to harm, destruction, or reduction in fitness of individual plants. According to the Lander RMP, livestock grazing and wild horse management could lead to trampling, crushing, or removing vegetative parts of individual desert yellowhead plants.

Effects on Ute Ladies'-tresses

The BLM's Lander RMP describes activities in the livestock grazing program that may affect and are likely to adversely affect the Ute ladies'-tresses orchid. These effects are (1) the trampling or destruction of the inflorescences (flowering spikes) of individual Ute ladies'-tresses plants by livestock grazing, and (2) any manipulation of the timing or intensity or cessation of grazing of the habitat of this plant.

Hydrologic changes to Ute ladies'-tresses habitat may render that habitat unsuitable by flooding or complete inundation, or by drying of the stream on which the plants depend for moisture. Similarly, a change in chemical composition, for example the sodium absorption ratio, of the soil inhabited by Ute ladies'-tresses could increase the salt content of the soil making the area unsuitable for Ute ladies'-tresses as well as other native plant species.

Analysis for Effects of the Action on Ute Ladies'-tresses

Analysis for effects of Livestock Grazing Management on Ute ladies'-tresses. Habitat alterations resulting from agricultural use (grazing) may be beneficial, neutral, and/or detrimental to Ute ladies'-tresses orchid depending on when it occurs (McClaren and Sundt 1992, USFWS 1995).

The Ute ladies'-tresses orchid is edible to livestock and depressed inflorescence (flowering spike) and fruit production has been observed at sites that are grazed in late summer (Arft 1995). However, populations are still capable of reproduction in the presence of long-term grazing, but may experience short-term impacts (Arft 1995).

Livestock management activities have variable effects on Ute ladies'-tresses. Grazing livestock could reduce competition with other grasses and forbs thereby allowing Ute ladies'-tresses to take advantage of sunlight, water, and nutrients that might otherwise be deprived of the plant.

In a 4-year study of a separate species of ladies'-tresses orchid (*S. spiralis*) in Great Britain, Wells (1967) discussed damage done by herbivores to that species (autumn ladies'-tresses). Wells (1967) found that herbivores did very little damage to the leaves of that species even under years of heavy grazing by sheep. Wells (1967) speculated that this unusually small amount of damage indicated how well-adapted ladies'-tresses orchid is to an open habitat in which the turf is kept short by grazing animals. In contrast, according to Wells (1967) damage to the flowering spike of some of plants was observed in every year of the 4-year study. The number of plants with damage to the flowering spike varied in each year according to the type and intensity of grazing during the period of flowering. Wells (1967) reports that when sheep were removed in early June, less than 1 percent of the flowering spikes were recorded as damaged that year.

It can be presumed that similar damage could occur to Ute ladies'-tresses as it was reported for the autumn ladies'-tresses in Great Britain. The BLM office in Lander does permit sheep and cattle grazing on the surface lands which they administer. Therefore, the livestock grazing program administered by the BLM may influence the reproductive potential of any given Ute ladies'-tresses plant. Seed number is not thought to be limiting to populations of *S. diluvialis* as flowering spikes have the potential to produce 5 to 30 fruits per flowering spike and each fruit can contain between 100 to 10,000 seeds (Sipes and Tepedino 1994). Therefore, even under heavy grazing pressure as described by Wells (1967), even a small population of *S. diluvialis* has the potential to produce tens of thousands of seeds.

Arft (1994) studied the effects of cattle grazing on Ute ladies'-tresses orchids. The data suggested that the large fluctuations in population size reported in monitoring counts may actually be fluctuations in number of flowering individuals, with many individual plants remaining vegetative (non-flowering) or subterranean. During Arft's (1994) study, the proportion of flowering individuals fluctuated greatly between survey years, indicating flowering plants alone may not be a good indicator of population size.

It is plausible that livestock could also incidentally ingest Ute Ladies'-tresses seed heads and act as seed dispersal mechanisms to introduce the seeds to unoccupied areas and actually improve the reproductive fitness of any given plant although Wells (1967) did not mention any such documented occurrences in his study of the autumn ladies'-tresses. In that study, most of the damage done by cattle in his study was due to trampling and treading on the flowering spikes. No other documentation has been found in the literature relative to the topic of livestock acting as a potential seed disperser of Ute ladies' tresses orchids.

It is currently accepted that grazing activities generally benefit the habitat necessary for Ute ladies'-tresses populations if these activities are timed to occur up to one month prior to flowering. Fencing, changes in livestock seasons of use or type of livestock, and riparian improvement projects may be used to protect the flowering spikes of individual plants from crushing or removal.

The BLM intends to continue grazing activities and surveys for Ute ladies'-tresses and if populations are discovered, grazing activities will be managed to maintain Ute ladies'-tresses populations (BLM 2007). The BLM in Lander has committed to conservation measures to protect Ute ladies'-tresses (Appendix 2). The use of these conservation measures will reduce or eliminate the effects by ensuring that (1) populations are discovered prior to any surface disturbing activities, (2) surface disturbances do not take place in occupied habitat, (3) invasive plant species infestations are controlled in a manner conducive to the survival of Ute ladies'-tresses, (4) the hydrologic regime of the plant's habitat is maintained and studied, and (5) grazing activities are conducted in a manner that will maintain the habitat of the species while minimizing any removal of the plant's flowering spikes (BLM 2007).

Summary of Effects on Ute Ladies'-tresses

Ute ladies'-tresses populations in Wyoming are typically found in areas where livestock grazing has maintained the habitat in areas where competing vegetation has been removed and there is a fair amount of bare ground surface (Fertig 2004) characteristic of an area that has been partially grazed regularly. However, activities authorized in the livestock grazing program may damage individual plants. The degree to which the plants can sustain damage and not be "adversely affected" is currently unknown but it is suspected that the activities authorized in the livestock grazing program may affect individual Ute ladies'-tresses orchid's reproductive success. The BLM has made a "may affect, likely to adversely affect" determination for the potential effect that BLM-authorized livestock grazing activities may have on Ute ladies'-tresses that may exist on BLM-administered surface acreage in the Lander Resource Area.

Minimization of Effects to the Species'

To minimize the effects to listed species, the BLM will implement the conservation measures listed in Appendix 2. For all listed species, the BLM will ensure that surveys are conducted in suitable habitat prior to implementation of potentially disturbing project activities. The BLM's implementation of the impact minimization measures of Appendices 2, 3, and 4 will reduce human and project disturbance to listed species and their habitat.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future state, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

Grizzly Bear. Activities identified in the BLM's Lander Biological Assessment (BLM 2012) which could have cumulative effects to the grizzly bear in the Lander RMP administrative area are presented here. Potential activities which could cumulatively affect the grizzly bear include oil and gas development on private land in grizzly bear habitat in the RMP administrative area. Non-federal activities which may have cumulative effects in the Lander RMP administrative area include: (1) subdivision development along rivers (especially along the Wind River near

Dubois) that would result in habitat fragmentation, (2) sand and gravel operations along river corridors, (3) livestock grazing on private lands, and (4) timber harvesting.

Certain components of these non-federal projects, if completed, could displace or modify the behavior of grizzly bears. Grizzly bear habitats could also be modified or degraded by the above-listed non-federal activities which are reasonably certain to occur within the BLM RMP administrative areas. Some of these activities are situated near important grizzly bear habitats or linkages on BLM-administered lands.

Desert yellowhead. Cumulative effects include the effects of future State, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal Actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

The exact cumulative effects on the desert yellowhead are not known due to the lack of specific information on future state, local, or private actions in the Lander RMP area. The known habitat of the desert yellowhead is contained completely on land administered by the Bureau of Land Management. Therefore, future state, local, or private actions which were to occur within the desert yellowhead sites are expected to conform to current BLM policies. In any case, any future federal actions that occur within the Lander BLM RMP area will be evaluated at a site-specific level.

Ute ladies'-tresses. Non-federal activities which may cumulatively affect Ute ladies'-tresses across the Lander Resource Area include oil and gas (including coalbed natural gas) development, uranium mining, sand, gravel, and scoria mining, road and railroad construction, and rural and urban housing development, hard rock mining (including coal, trona, and phosphates), subdivision development along rivers, recreation along rivers and river corridors (including camping, rafting, hunting, and golf course development), municipal solid waste landfill expansions, housing developments, stockyard operations for livestock grazing, and farming near and within riparian corridors. Other potential effects from non-federal actions in the planning area could include increases in urbanization (although this is not thought to be a significant impact in the planning area at this time).

Impacts to Ute ladies'-tresses orchids could result from livestock operations on private lands in the Lander Resource Area. These impacts could be beneficial (maintaining habitat through grazing), or detrimental (limiting individual orchid reproductive fitness by removal of fruiting parts through trampling or ingestion). The nature of the impacts from livestock operations is likely to be fairly similar across land ownerships.

Mowing and haying on private and state lands could be beneficial to Ute ladies'-tresses populations. However, these activities could also be detrimental if done before fruits have ripened, or if the height of hay cutting is too low. In many current management situations, the timing of mowing is related to growth conditions of the hay crop and weather patterns rather than the biological needs of these threatened plants.

Finally, the data are not adequate to determine the distribution and abundance of all Ute ladies'-tresses populations and suitable habitats on private or state-owned lands in the BLM's Lander Resource Area. Of the roughly 6.5 million acres within the Lander Resource Area, 2.4 million surface acres are managed by the BLM with most available to livestock operations. The BLM in

Lander also oversees the use of approximately 2.8 million subsurface acres within the resource area. The exact cumulative effects of this species are not known at this time due to a lack of specific information on future, state, local, or private actions in the Lander Resource Area over the life of the RMP.

CONCLUSION (Note: For discussion relevant to the Platte River downstream listed species, see page 37 below).

After reviewing the current status of the grizzly bear, desert yellowhead and the Ute ladies'-tresses orchid; the environmental baseline for the action area; the effects of the Lander Resource Management Plan; and the cumulative effects, it is the Service's biological opinion that the direct and indirect effects of the implementation of the Lander Resource Management Plan, as proposed, are not likely to jeopardize the continued existence of the grizzly bear, desert yellowhead, or the Ute ladies'-tresses orchid. No critical habitat has been designated for the grizzly bear or the Ute ladies'-tresses orchid; therefore, none will be affected. (For the likelihood of adverse effects to desert yellowhead critical habitat, see the introductory pages of this correspondence.)

The Service has reached this conclusion by considering the following.

Grizzly Bear

After reviewing the current status of the grizzly bear; the environmental baseline for the action area; the effects of the Lander Resource Management Plan and the BLM-committed conservation measures; and the cumulative effects, it is the Service biological opinion that the direct and indirect effects of the implementation of the Lander RMP with commitment to conservation measures, as proposed, are not likely to jeopardize the continued existence of the grizzly bear. Critical habitat has not been designated, therefore none will be affected.

The Service has reached this conclusion by considering the following.

1. An accurate estimate of grizzly bear population size in the Greater Yellowstone Ecosystem has always been elusive given the bear's normally isolated existence in remote inaccessible terrain. However, this species has increased in numbers since the year of its listing. The range of the grizzly bear in the Greater Yellowstone Ecosystem has also increased dramatically since the 1970s (IGBST 2012, Pyare *et al.* 2004, Schwartz *et al.* 2002, USFWS 2005a).

2. The BLM is committed to implementing protective measures (see Appendix 2) to minimize potential impacts to grizzly bears.

3. Finally, although individual grizzly bears may be adversely impacted by conflicts arising over livestock grazing activities, these activities will occur in transition, sub-optimal habitat outside of the core population area for the Greater Yellowstone grizzly bear population. These conflicts are expected to consist primarily of sub-adult individuals that have been pushed out of optimal habitat through competition with more dominant bears. The core population of grizzly bears of the Greater

Yellowstone Ecosystem is expected to remain relatively unaffected by livestock grazing activities of the BLM's Lander Resource Area in Wyoming.

Although we anticipate some level of take of grizzly bears from management relocations and mortality due to management removals within the area, it is our opinion that the proposed action will not appreciably reduce the likelihood of both the survival and recovery of grizzly bears. No critical habitat has been designated for grizzly bears; therefore, none will be affected. Our conclusion that the proposed action is not likely to jeopardize the continued existence of grizzly bears is based primarily on the information presented in the BA and informal discussions between the Service and Lander Field Office personnel.

Desert Yellowhead

After reviewing the current status of the desert yellowhead; the environmental baseline for the action area; the effects of the Lander Resource Management Plan and the BLM-committed conservation measures, and the cumulative effects; it is the Service's biological opinion that the direct and indirect effects of the implementation of the Lander RMP with commitment to conservation measures, as proposed, are not likely to jeopardize the continued existence of the desert yellowhead.

The Service has reached this conclusion by considering the following.

1. Annual census efforts have revealed that the Sand Draw population has annual fluctuations in plant numbers which have varied from 9,293 individuals in 1995 to 13,244 individuals in 2000. Although the Sand Draw population does have annual fluctuations, the population has remained fairly stable since its discovery (USFWS 2004b). Census efforts are expected to continue at both the Sand Draw and the newly-discovered Cedar Rim populations.

2. The BLM is not proposing to implement any significant changes to the management of the desert yellowhead sites that will cause detrimental impacts to the populations.

3. The BLM is committed to ensuring that the desert yellowhead populations are not jeopardized by BLM-authorized activities by implementing protective measures (see Appendix) to minimize and/or eliminate potential impacts to the desert yellowhead populations.

Ute Ladies'-tresses

After reviewing the current status of the Ute ladies'-tresses orchid; the environmental baseline for the action area; the effects of the Lander Resource Management Plan and the BLM-committed conservation measures, and the cumulative effects; it is the Service's biological opinion that the direct and indirect effects of the implementation of the Lander RMP with commitment to conservation measures, as proposed, are not likely to jeopardize the continued existence of Ute ladies'-tresses.

The Service has reached this conclusion by considering the following.

1. It appears that this species is more widespread and numerous than was previously known. At the time of listing, the total known Ute ladies'-tresses population numbered approximately 6,000 individuals. Extensive census efforts from 1991-1995 revealed that known population size was approximately 20,500 individuals. Since 1995, several new populations have been located adjacent to the action area, one of which contained several thousand individuals. From 1992-1999, the total known population of the Ute ladies'-tresses orchid observed across its range reached over 60,000 individuals (USFWS 2004e). It is expected that new populations will continue to be discovered as not all potential habitat has been surveyed. As a response to the plant's more widespread distribution, the Service began preparing a 12 month finding on a petition to delist the species (USFWS 2004c).
2. The BLM is not proposing to implement any significant changes to the management of any Ute ladies'-tresses potential habitat that may cause detrimental impacts to any populations.
3. The BLM is committed to implementing protective measures (Appendix 2) to minimize potential impacts to Ute ladies'-tresses.
4. Although individuals can be adversely impacted by livestock grazing activities (trampling, ingestion, etc.), the populations seem to withstand some grazing pressure and may actually rely on these activities for maintenance of their habitat.

ACTIONS AFFECTING PLATTE RIVER FLOWS

The Platte River River Recovery Program provides a programmatic, streamlined, process for section 7 consultation under the ESA to expedite section 7 compliance on water projects in this river basin. Participation in this recovery program provides section 7 compliance for the vast majority of new and existing water projects in this basin. Depletion consultations under section 7 are tiered to the June 2006 Biological Opinion on the Platte River Recovery Implementation Program, facilitating the streamlined consultation process for all such future depletion consultations.

Platte River Depletions

Since 1978, the Service has consistently taken the position in its section 7 consultations that federal agency actions resulting in water depletions to the Platte River system may affect, and are likely to adversely affect, one or more federally-listed threatened or endangered species and their critical habitat. Currently, it is recognized that federal agency actions resulting in water depletions to the Platte River System are likely to adversely affect the whooping crane (*Grus americana*) and designated critical habitat, interior least tern (*Sterna antillarum*), piping plover (*Charadrius melodus*), pallid sturgeon (*Scaphirhynchus albus*), bald eagle (*Haliaeetus leucocephalus*), and western prairie fringed orchid (*Platanthera praeclara*).

While the proposed Lander RMP does not authorize site-specific or project-level actions, leading to depletions in the Platte River Basin, the Lander RMP identifies several potential types of projects that would result in annual average depletions to the Platte River including: approximately 133 conventional oil and gas wells; 95 coalbed natural gas wells; 15 reservoirs and pits, 15 springs, and 25 water wells. It is estimated that these projects could result in approximately 462 acre-feet of water being depleted from the Platte River system. The proposed Lander RMP does not authorize these projects. Implementation of these projects, or any other projects leading to depletions to the Platte River, will require individual or separate site-specific section 7 consultation for effects of depletions to downstream federally listed species of the Platte River and their designated critical habitat.

INCIDENTAL TAKE STATEMENT

Grizzly Bear

Section 4(d) and 9 of the ESA, as amended, prohibit the take of listed species of fish or wildlife without a special exemption. The ESA defines take as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct. A special rule under the ESA is in effect for grizzly bears in the 48 conterminous states of the United States (50 CFR 17.40(b), Special Rule). Under the terms of the Special Rule, taking is prohibited except as provided in paragraphs 17.40(b)(1)(i)(B) through (F). The exceptions to the take prohibition include the defense of human life and the removal of nuisance bears when the taking conforms to the requirements specified in the regulations.

Although there are exceptions to the take prohibition for grizzly bears, the exceptions do not address all sources of incidental take that may result from the proposed Federal action. For example, harm is further defined by regulation (50 CFR 17.3) to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering. Harass is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. Incidental take is any take of listed animal species that results from, but is not the purpose of, carrying out an otherwise lawful activity conducted by the Federal agency or the applicant. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered a prohibited taking provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary, and must be undertaken by the BLM so that they become binding conditions of any grant or permit issued, as appropriate, for the exemption in section 7(o)(2) to apply. The BLM has a continuing duty to regulate the activity covered by this Incidental Take Statement. If the BLM (1) fails to assume and implement the terms and conditions or (2) fails to require the applicant to adhere to the terms and conditions of the Incidental Take Statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of the incidental take, the BLM must report the progress of the action and its impact on the species to the Service as specified in the Incidental Take Statement [50 CFR 402.14(i)(3)].

Amount or Extent of Take Anticipated

Although the act of relocating or removing nuisance grizzly bears in accordance with the special rule is an exception to the taking prohibition (50 CFR 17.40(b)(1)(i)(C)), the exception does not address all forms of take that may be associated with permitting grazing. The Service anticipates take in the form of harm to grizzly bears as a consequence of livestock grazing and the associated livestock management operation in habitats commonly used by grizzly bears. The habitat modification of adding a significant additional potential food source that results in the death or injury of bears is "take" in the form of harm. Grazing livestock as part of the proposed action is a significant modification to grizzly bear habitat, as livestock present a substantial potential food source for grizzly bears. The likely depredation of some permitted livestock represents an impairment of natural feeding behavior that will in some cases ultimately lead to management removal or death of grizzly bears. In addition, grazing and associated activities have the potential for other adverse effects to grizzly bears (e.g., displacement, habituation, increased exposure to other potential sources of mortalities, etc).

The Service anticipates that grizzly bears could be taken as a result of the management according to the Lander BLM Resource Management Plan. The incidental take is expected to be in the form of harm, harassment, or death. Incidental take has been determined based on the BA and an analysis of the environmental baseline, effects of the action, and the cumulative effects. At the broad scale of this consultation, the Service is unable to anticipate all possible circumstances that may involve the take of grizzly bears due to the actions implemented under the proposed plan. Therefore, the Service conservatively anticipates that some level of incidental take, both lethal and non-lethal, may occur due to specific actions implemented under the Lander RMP. However, the amount or extent of take is unquantifiable at this time. The Service believes that the take, resulting from this plan, is tied to habitat modification (including the placement of livestock in grizzly bear habitat) of grizzly bears that will result in harm or death to grizzly bears. Any actions implemented under the RMP that may adversely affect the grizzly bear would require separate formal Section 7 consultation at the project level. Therefore, incidental take will appropriately be assessed, and coverage under the terms of Section 7(b)(4) and Section 7(o)(2) of the ESA will be granted as appropriate, at the project level during formal consultation.

Effect of the Take

In this Biological Opinion, the Service has determined that this level of anticipated take is not likely to result in jeopardy to the grizzly bear. This is based in part, on the fact that measured population parameters in past years have met established recovery plan levels, while bear mortality has generally been below the threshold levels established in the recovery plan. However, the Service anticipates that the direct and indirect effects of implementing livestock grazing activities under the Lander RMP (resulting in continued livestock grazing along with implementation of the Interagency Grizzly Bear Guidelines and BLM-committed conservation measures) could maintain or add to the existing level of incidental take. This "take" may be in the form of lethal take, as a result of management actions/nuisance bear control associated with grizzly bear/livestock conflicts, or in the form of non-lethal take, such as harm resulting from harassment or displacement of grizzly bears from occupied habitats. No critical habitat for the grizzly bear has been designated; therefore none will be destroyed or adversely modified.

Plants (Desert Yellowhead and Ute Ladies'-tresses)

Sections 7(b)(4) and 7(o)(2) of the ESA generally do not apply to listed plant species. However, limited protection of listed plants from take is provided to the extent that the ESA prohibits the removal and reduction to possession of federally listed plants.

REASONABLE AND PRUDENT MEASURES

The Service believes that the following reasonable and prudent measures (RPM) are necessary and appropriate to minimize impacts of incidental take:

RPM1. The BLM shall implement measures at the individual project level to minimize grizzly bear/livestock conflicts, grizzly bear/human conflicts, and grizzly bear habituation to human activities in the Lander Resource Area.

RPM2. The BLM shall implement measures across the Lander Resource Area to improve habitat conditions for grizzly bears.

TERMS AND CONDITIONS

In order to be exempt from the prohibitions of Section 9 of the ESA, the BLM must comply with the following terms and conditions (T&C), which implement the reasonable and prudent measures described above and outline required reporting/monitoring requirements. These terms and conditions are nondiscretionary. Many of these terms and conditions are reiterated here or modified from the BLM's Statewide Programmatic Grizzly bear Biological Assessment (BLM 2006) and/or the BLM's Lander RMP Biological Assessment (2012).

T&C1. The BLM shall implement all conservation measures as described as part of the proposed action in the Biological Assessment.

T&C2. As per section 7 of the ESA, the BLM will consult individually over the impacts of site-specific projects authorized by the Wyoming RMPs which "may affect" grizzly bears. These future consultations will provide a means for site-specific analysis and documentation of levels of any potential incidental take of grizzly bears.

T&C3. To monitor the impacts of site-specific projects authorized under the BLM's Wyoming RMPs, that are likely to adversely affect grizzly bears, the BLM shall prepare a report describing the progress of each such site-specific project, including implementation of the associated reasonable and prudent measures, and impacts to the grizzly bear (50 C.F.R. § 402.14[i][3]).

The reasonable and prudent measures, with their implementing terms and conditions and the reporting criteria, are designed to minimize the impact of incidental take that might otherwise result from the authorized activities under the RMPs. If, during the course of the authorized activities, any level of incidental take has exceeded that as permitted by site-specific formal consultations for grizzly bears, such incidental take represents new information requiring reinitiation of consultation and review of the reasonable and prudent measures provided. The BLM must immediately provide an explanation of the causes of the taking and review with the Service the need for possible modification of the reasonable and prudent measures.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of ESA directs federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations (CR) are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information. The recommendations provided here relate only to the proposed action and do not necessarily represent complete fulfillment of the agency's section 7 responsibility for these species.

CR1. The Service recommends that the BLM follow all best management practices as identified in the BLM's Lander RMP Biological Assessment (BLM 2012), the BLM's Statewide Programmatic Grizzly Bear Biological Assessment (BLM 2006), the BLM's Statewide Programmatic Desert Yellowhead Biological Assessment, and the BLM's Statewide Programmatic Ute ladies'-tresses Biological Assessment (BLM 2007).

CR2. The Service recommends that the BLM (1) phase out sheep allotments in occupied grizzly bear habitat as the opportunity arises, (2) monitor and evaluate for conflicts between grizzly bears and sheep in existing sheep allotments in occupied grizzly bear habitat, and (3) offer no new permitted sheep Animal Unit Months (AUMs) in grizzly bear habitat where conflicts have occurred in the past, or are likely to occur in the future.

CR3. The Service recommends that the BLM adjust management of domestic livestock on public land allotments or leases to minimize grizzly bear-livestock conflicts (such as season of use, class of livestock, etc.).

CR4. The Service recommends that the BLM include a clause on all use authorizations that allows for temporary cessation of activities, temporary cancellation, or as a last resort permanent cancellation if needed to resolve a grizzly-human conflict situation.

CR5. The Service recommends that the BLM (1) initiate a habitat mapping and monitoring effort for the grizzly bear using Geographic Information System (GIS) technology and (2) secure grizzly bear habitat with the appropriate route densities.

CR6. In known occupied Ute ladies'-tresses and desert yellowhead habitat, the Service recommends that the BLM use management actions that are compatible with protection and conservation of pollinators of these species.

CR7. The Service recommends that the BLM monitor and manage invasive species so these do not impact the Ute ladies'-tresses orchid or desert yellowhead or their habitats.

CR8. The Service recommends that the BLM not authorize herbicide use in known or occupied Ute ladies'-tresses or desert yellowhead habitat without prior review by Service biologists.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

RE-INITIATION NOTICE

This concludes formal consultation on the Lander Resource Management Plan Revision as outlined in your September 19, 2012, request for formal consultation. As provided in 50 CFR 402.16, re-initiation of formal consultation is required where discretionary federal agency involvement or control over the action has been maintained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing take must cease pending re-initiation.

Thank you for your assistance in the conservation of this endangered, threatened, and candidate species. In future communications regarding this Biological Opinion, please refer to consultation number WY13F0007. If we may be of further assistance, please contact Alex Schubert of my staff at (307) 772-2374, ext. 238.

cc: BLM, Endangered Species Coordinator, State Office, Cheyenne, WY (C. Keefe)
FWS, Endangered Species, Lakewood, CO (B. Fahey)
WGFD, Statewide Habitat Protection Coordinator, Cheyenne, WY (M. Flanderka)
WGFD, Non-Game Coordinator, Lander, WY (B. Oakleaf)

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APPENDIX 1 - DESCRIPTION OF PROGRAM ACTIVITIES FOR THE LANDER RMP

The activities associated with the following programs are summarized from the U.S. Bureau of Land Management's (BLM) Lander Proposed Resource Management Plan (RMP) Biological Assessment (BLM 2012). It is expected that the activities described here will be implemented in the Lander planning area over the life of the approved Lander RMP (10-15 years).

Air Quality

The BLM's air quality program includes monitoring efforts in cooperation with the USFS, Wyoming Department of Environmental Quality (DEQ), and the U.S. Environmental Protection Agency (USEPA), and evaluating and restricting surface development. Monitoring for air quality components (i.e., carbon monoxide, nitrogen dioxide, sulfur dioxide, ozone, particulate matter, visibility, and atmospheric deposition) is conducted from various facilities around Wyoming. Regional air quality is influenced by the interaction of several factors, including meteorology, climate, the magnitude and spatial distribution of local and regional air pollutant sources, as well as the chemical properties of emitted air pollutants. Air quality management actions typically are associated with limiting, reducing, and monitoring pollutant levels and dust during other BLM-authorized actions.

There are four monitors in the planning area (Lander, South Pass, South Pass City, and Sinks Canyon). The Wyoming DEQ operates a $PM_{2.5}$ (particulate matter [PM] of 2.5 microns or less) monitor as part of the State and Local Monitoring Site (SLAMS) network in Lander. The SLAMS monitor at South Pass measures ozone, nitrous oxides, PM_{10}, and sulfur dioxide.

The BLM expects to work cooperatively with the Wyoming DEQ, the USEPA, and other federal agencies such as the National Park Service and USFS to address impacts that emissions from development sources will have on criteria pollutants, visibility, and atmospheric deposition.

Geologic Resources

The revised Lander RMP does not propose management prescriptions for geologic resources.

Soil

Activities associated with soil resources may include assessing erosion rates and soil stability; conducting soil surveys; evaluating erosion condition of soils in the planning area; preventing soil erosion from disturbed areas; establishing successful reclamation or rehabilitation on disturbed areas; closing or reclaiming roads and trails; managing to maintain long-term soil stability; and monitoring, evaluating, and adapting management actions. Under the Preferred Alternative, approximately 53,894 acres of short-term disturbance are anticipated to occur from BLM actions, with approximately 42,441 acres being reclaimed, for a total long-term disturbance of 11,453 acres from BLM actions.

Water Resources

The BLM's Water Resources Program conducts data collection, resource monitoring, and analysis in support of other management actions, such as range management, forest management, and mineral extraction. Watershed management actions include evaluating proposed projects, applying soil management practices, applying seasonal closures, monitoring public drinking water, and completing groundwater studies. Some of these field actions involve the use of heavy machinery and hand tools. Field actions can involve developing riparian exclosures and constructing stream crossings. Other actions can involve imposing restrictions on actions such as mineral exploration and development, pipelines, powerlines, roads, recreational sites, fences, and wells.

Through water resource management the BLM seeks to maintain or improve surface and groundwater quality consistent with existing and anticipated uses and applicable state and federal water quality standards, provide for the availability of water to facilitate authorized uses, and to minimize harmful consequences of erosion and surface runoff. Water resources are also to be protected or enhanced through site-specific mitigation guidelines.

During watershed management actions, the BLM develops pollution prevention plans, ensures rights to water-related projects are filed, delineates no chemical use buffer zones, designs actions to promote reduction of channel erosion, and restores damaged wetlands or riparian areas. The BLM also provides technical expertise on other actions such as livestock ponds and water quality monitoring actions, and it provides impact analyses of oil and gas development or any surface-disturbing projects.

Surface-disturbing and other activities associated with the Water Resources Program include the following: (1) allow for surface discharges of produced water; (2) restrict surface disturbance near water resources and sensitive soils; (3) close areas, including roads, where accelerated erosion is occurring; (4) install stream crossings for appropriate sediment and flow passage (e.g., culverts and bridges); (5) develop riparian/wetland exclosures; (6) restore channels using heavy equipment; and (7) cut, plant, and seed to restore function in riparian or wetland areas.

Cave and Karst Resources

BLM policy and guidance for managing cave resources is to protect sensitive, fragile, biological, ecological, hydrological, geological, scientific, recreational, cultural, and other cave values from damage and to ensure they are maintained for public use, both now and in the future. Actions associated with cave and karst management include timing restrictions to protect cave resources, closing cave and karst areas for safety reasons or to protect resources, allowing scientific research and recreational use of caves, and installing gates as necessary to protect resources.

Lands and Wilderness Characteristics

There are approximately 4,954 acres of BLM-administered land identified as containing wilderness characteristics in the planning area, or approximately 0.02 percent of total BLM-administered land in the planning area.

The *BLM Land Use Planning Handbook* (H-1601-1) states that the BLM must consider the management of lands with wilderness characteristics during the land use planning process. The criteria used to identify non-Wilderness Study Area (non-WSA) lands with wilderness characteristics are essentially the same criteria used for determining wilderness characteristics for WSAs. However, the authority set forth in Section 603(a) of FLPMA to complete the three-part wilderness review process (inventory, study, and report to Congress) expired on October 21, 1993; therefore, the Federal Land Policy and Management Act (FLPMA) does not apply to new

WSA proposals, and consideration of new WSA proposals on BLM-administered public lands is no longer valid. The BLM is still required to inventory lands to determine whether they possess wilderness characteristics.

The Agency Preferred Alternative proposes the following protections for lands with wilderness characteristics:

- Manage the Little Red Creek Complex including Red Creek and portions of Torrey Rim (4,954 acres) as non-WSA lands with wilderness characteristics.
- Close the Little Red Creek Complex to motorized travel and limit mechanized travel to designated routes.
- Manage recreational use in the Little Red Creek Complex to maintain wilderness characteristics.

Mineral Resources—Locatable

The BLM locatable mineral program addresses authorization and permitting of locatable mineral exploration, mining, and reclamation activities on BLM-administered land. All locatable mineral exploration and development activities that disturb the surface of a mining claim (site) require prior BLM acceptance (for a notice) or authorization (for a Plan of Operations). Operations obtain necessary authorizations and permits through the BLM field office responsible for administering the land in which the minerals are located. Some conservation measures may not be applied due to the BLM's non-discretionary application of the General Mining Law of 1872.

Under the Agency Preferred Alternative, 51,476 acres are withdrawn from locatable mineral entry and 2,757,625 acres are available for locatable mineral entry. In the planning area, approximately 2,170 acres of short-term surface disturbance and approximately 1,900 acres of long-term surface disturbance are anticipated from locatable mineral development over the life of the plan.

Locatable minerals known to occur in the planning area include uranium; bentonite; gold (both lode and placer deposits); silver; gypsum; copper; tungsten; tantalum; zeolites; iron; and gemstones (precious and semi-precious) such as agate, opal, jade, sapphire, beryl, and garnet. Most of the commercial locatable mineral activity in the planning area focuses on uranium, bentonite, and gold exploration. There are currently no operating uranium mines and one BLM permitted but inactive bentonite mine in the planning area. Additionally, gold panning is a popular activity in the South Pass/Atlantic City area.

Opal and agate collecting attracts hobbyists to the planning area. In 2005, a large deposit of opal was discovered near Cedar Rim, north of Sweetwater Station. This discovery was publicized by the Wyoming State Geological Survey, and in a span of two months more than 1,000 mining claims were registered at the Fremont County Courthouse. Opal and agate collecting has substantially abated over the last few years and only a few mining claims remain.

Activities associated with locatable minerals include surface disturbance for exploration and mining, reclamation, and construction of access roads, buildings, and utility lines. All lands must be reclaimed after completion of mining.

Mineral Resources—Leasable Coal

At present, there is no coal leasing in the planning area and no anticipated development of coal resources during the planning cycle. Future coal leasing and development in the planning area would require an RMP amendment. BLM would require a Land Use Plan amendment for any coal leasing, which would include a Call for Coal and Other Resource information, application of the coal planning screens, and identification of areas of federal coal acceptable for further consideration for leasing, according to the procedures in 43 CFR 34201.1.

Coal in Wyoming generally is extracted using surface mining methods, although in the past, some coal was mined underground. Surface mining involves the use of large equipment, such as draglines, shovels, and haul trucks. Small drill rigs are used for exploration to determine the location and thickness and to obtain cores (for determining quality). Extracting coal using surface mining methods often results in large areas of surface disturbance from road construction, removal of topsoil and overburden, and stock piling of these materials. Once an area is mined out, reclamation begins and includes recontouring as closely to the original landscape as possible, reconstruction of drainages, and reseeding and monitoring to ensure the habitats are useable.

Mineral Resources—Leasable Geothermal

There are geothermal resources in many places in the planning area, as evidenced by flowing springs with elevated groundwater temperatures. There are several areas where measured temperature gradients in groundwater wells indicate the potential for low- or medium-grade geothermal energy. These areas include north of the Gas Hills, the Diamond Springs area, Big Sand Draw, and the Copper Mountain area. The most likely potential for utilization of geothermal resources in the planning area is for co-generation, such as with oil and gas development. Low potential geothermal resources are more viable if a developer is already drilling to reach differentially heated material. Coupled with new low temperature equipment, electrical power to operate facilities could be generated without carbon dioxide (CO_2) or other emissions. Direct heat application could be used to warm gas lines and other facilities associated with minerals development. As clean energy initiatives increase and oil and gas operators look at ways to reduce the emissions impacts of their projects (and potentially to make projects more affordable), utilization of direct use geothermal systems on public land in the planning area might increase.

The Agency Preferred Alternative proposes the following management actions for leasable geothermal resources. Areas within the National Lands Conservation System (NLCS) are closed to geothermal energy development. These areas include: WSAs (55,338 acres), Continental Divide National Scenic Trail (CDNST) (no buffer is identified), National Historic Trails (NHTs), Eligible waterway segments proposed for inclusion in the National Wild and Scenic River System (NWSRS) (9,919 acres)

BLM will encourage geophysical operators to share scientific information in order to minimize surface impacts. Constraints applied for oil and gas leasing also apply to geothermal leasing. In areas that are closed to mineral leasing, BLM will not reoffer existing leases when they expire.

Mineral Resources—Leasable Oil and Gas

The Mineral Leasing Act of 1920 provides that all public lands are open to oil and gas leasing unless specifically designated by public law. Under the Agency Preferred Alternative, 46,039 acres of federal mineral estate are open to oil and gas leasing consideration with standard constraints; 1,470,338 acres are open with moderate constraints; 1,182,711 acres are open with major constraints; and 110,014 acres are closed to oil and gas leasing for the life of the plan.

Oil and gas occurs in the planning area in numerous geologic formations, and members of formations that range in age from the oldest producing formation (Flathead Sandstone of Cambrian age) upward to the Wind River Formation of Tertiary age. The two oil and gas basins in the planning area are the Wind River Basin and a small portion of the northern part of the Great Divide Basin. In addition, coalbed natural gas (CBNG) being produced in the planning area originates from coals in the Mesaverde Formation.

Almost all planning area drilling activity (exploratory and development) has been occurring in the eastern Wind River Basin and eastern portions of the Wind River Indian Reservation (WRIR), with additional exploratory activity in the Great Divide Basin portion of the planning area. New wells drilled in the last 10 years are concentrated in the northeast part of the planning area (mainly at the Madden, Frenchie Draw, Fuller Reservoir, and Beaver Creek fields) and in the southeastern part of the WRIR (at the Muddy Ridge, Pavilion, and Riverton Dome fields), with a few new oil wells drilled in the northwest and occasional new wells scattered across the south. Of the development wells completed in the last 10 years, 93.7 percent were successful.

Federal oil and gas leases are incorporated into 35 active unit agreements that lie within or partly within the planning area. A total of 21 companies operate the 35 units. Unique rules apply to unitized leases. The oldest active unit is the Big Sand Draw Gas unit established in 1934. Under the Agency Preferred Alternative, the entire Dubois area is closed to oil and gas leasing and geophysical exploration.

Surface-disturbing and other activities associated with oil and gas exploration and development include constructing and reclaiming well pads, access roads, and reserve pits; applying dust-control measures; controlling or limiting emissions; constructing reservoirs associated with water disposal; constructing compressor stations, product enhancements, and disposal facilities; building pipelines associated with leases or units; installing powerlines associated with leases or units; and conducting geophysical exploration.

The Agency Preferred Alternative proposes the following management actions for leasable oil and gas resources. All oil and gas and other mineral leases are subject to standard lease stipulations. Additional stipulations may apply in some areas. BLM will encourage geophysical operators to share scientific information in order to minimize surface impacts. BLM will apply a Master Leasing Plan (MLP) to 143,448 acres in the Beaver Rim area. Within the MLP area, BLM will apply No Surface Occupancy (NSO) and Controlled Surface Use (CSU) restrictions and manage to protect resource values in conflict with oil and gas development. In areas that are closed to mineral leasing, BLM will not reoffer existing leases when they expire. If drainage occurs in an area closed to oil and gas leasing, BLM may authorize leasing on a case-by-case basis.

Mineral Resources—Leasable Oil Shale

At present, there is no development of oil shale in the planning area. There are low-quality oil shale deposits in the southern part of the planning area. However, there is little potential for commercial development of these resources. Based on these resource values, the existing Lander RMP was not amended for oil shale leasing under the Programmatic EIS for oil shale and tar sands resources. Oil shale development in the planning area would require an RMP amendment.

Mineral Resources—Other Solid Leasables

Other solid leasable minerals (non-coal) present within the planning area include phosphate and potential tar sands (VerPloeg 1986). Access to BLM-administered leasable minerals is at the BLM's discretion. The largest and most well-known occurrence is on the northwest flank of the Wind River Range, particularly in the area known as the Lander Front or Lander Slope. The rock along the Lander Front can be traced south from the Dubois area to the Sweetwater River. The other occurrences of phosphate-bearing sedimentary rocks are Crooks Mountain, Lysite Mountain, and the Conant Creek Anticline southeast of Riverton.

Until very recently, there had been little interest in phosphate except for one proposal in which planning area phosphate deposits were seriously considered for development during the 1960s through 1980s. During this period, a mining company extensively surveyed, mapped, drilled, trenched, and sampled phosphate deposits. Eventually, eight federal leases were issued and held by this company until 1985. Although the mining company performed exploration activities under prospecting permits before it was issued leases, the company never performed mining operations under the leases.

At present, there are no phosphate lands under lease in the planning area, but in 2008 two proposals were submitted for phosphate prospecting and leasing, neither of which the BLM will consider until the RMP revision is finalized and a ROD is issued. There are currently no tar sand leases in the planning area.

The Agency Preferred Alternative proposes the following management actions for other solid leasable mineral resources: (1) 1,617,220 acres of federal mineral estate are open to phosphate leasing subject to standard lease stipulation; (2) 1,191,881 acres of federal mineral estate are closed to phosphate leasing; (3) BLM will encourage geophysical operators to share scientific information in order to minimize surface impacts; (4) all oil and gas and other mineral leases are subject to standard lease stipulations; additional stipulations may apply in some areas; (5) in areas that are closed to mineral leasing, BLM will not reoffer existing leases when they expire. If drainage occurs in an area closed to oil and gas leasing, BLM may authorize leasing on a case-by-case basis.

Mineral Resources—Salable

Salable minerals known to be present in the planning area include sand and gravel (aggregates), common-variety (non-metallurgical-grade) limestone, granite, shale, and moss rock (lichen stone). Sand and gravel are the most common type of mineral materials found in the planning area. Sand and gravel are typically used for road base, oil and gas drill pads, and various building-construction projects. Most of the limestone in the planning area is considered common variety and therefore salable. Crushed limestone can be used for rip rap or for road base in place of sand and gravel. Granite and moss rock are used for building or decorative stone. Shale has been recently used for cap material in Abandoned Mine Land (AML) reclamation projects, due to its low permeability. Sand and gravel are found on old terrace benches along former and existing major drainages and pediment surfaces adjacent to range fronts. Formations for the potential exploitation of limestone resources include the Alcova Limestone member of the Chugwater Group, and the Madison Limestone. Large quantities of granitic mineral material are available at various places in the planning area, most abundantly in the Sweetwater Rocks and the Granite Mountains area. Shale is commonly obtained from exposures of Cody Shale.

Before issuing contracts for free use permits for salable minerals, the BLM conducts appropriate environmental assessments. These may include special studies or inventories of cultural values, threatened or endangered plant and wildlife species, or other resources. Stipulations or conditions may be included in the terms of the contract to ensure protection of the natural resource found there and reclamation of the land following project completion. Site reclamation is required following any surface-disturbing mining activity for common variety minerals. Reclamation includes removing all artificial debris, recontouring, reducing steep slopes, replacing topsoil, and seeding and planting vegetation. Under the Agency Preferred Alternative, 1,249,626 acres are closed to mineral materials disposal and 1,559,475 acres are open to mineral materials disposal. In the planning area, approximately 3,660 acres of short-term and 0 acres of long-term disturbance from salable mineral development are anticipated over the life of the plan.

Fire and Fuels Management—Unplanned/Wildfire

The BLM coordinates its fire management program with the USFS, Wyoming State Forestry Division, County Fire Departments, and local fire protection districts. The BLM fire management program focuses on two categories of fires: unplanned (or wildfire) and planned (or prescribed fire).

Unplanned/wildfires are fires caused by an act of nature (e.g., lightning) or by human accident or intent. Wildfires include burning in areas where fire is specifically excluded or fires that exhibit burning characteristics (intensity, frequency, and seasonality) outside prescribed ranges. There have been numerous large fires in the planning area from 1988 to 2008 at a scale and quantity that exceeds the area burned in the previous 20-year period. Whether this trend is part of the natural fire cycle or because of past fire and vegetation management (which may have resulted in flammable conditions) is not precisely understood. Regardless, it appears that the planning area lies within a region where more frequent, larger fires are occurring. Much of the forest, shrublands, and grasslands are vulnerable to wildfires, but under existing conditions the areas that have the greatest potential for large wildfires are within the 15- to 19-inch and 20+-inch precipitation zones where natural fuel loading is greater. Almost all fires larger than 100 acres in the planning area have been within these precipitation zones.

Both fire suppression activities and fire management actions depend on fire severity and size and the resources endangered by the fire. Fire management practices range from full fire suppression, to limited fire suppression, to designation of areas for prescribed fires. Ground crews—arriving onsite by road, trail, or cross-country either by foot or vehicle—evaluate the fire and estimate suppression requirements. Small fires may require hand and power tools (e.g., pulaskis, shovels, and chainsaws) and water from a pumper unit or backpack pumps. Larger fires may require additional personnel and equipment, including cutting trees, using mechanized equipment (e.g., bulldozers) to construct wider fire lines, filling water pumper trucks from waterbodies, water drops from helicopter buckets, or air tanker drops of water or chemical retardant. A camp for personnel may be established in a safe location away from the fire and will be large enough to accommodate cooking facilities and equipment and supply areas. Following containment and control of the fire, the BLM may use rehabilitation techniques to stabilize the disturbed or burned area.

Fire and Fuels Management—Planned/Prescribed Fire

Prescribed, or planned, fires (as well as some wildland fires) are used to maintain or increase age-class diversity within vegetative types (e.g., big sagebrush/grassland); rejuvenate fire-dependent vegetative types (e.g., true mountain mahogany/ponderosa pine); maintain or increase vegetation productivity, nutrient content, and palatability; and maintain or improve wildlife habitats, rangeland, and watershed conditions. Fire also is considered a management tool for disposal of timber slash, preparation of seedbed, reduction of hazardous fuel, control of disease or insects, grazing management, thinning, or plant species manipulation.

Activities associated with prescribed fires include preparing the site for the burn by constructing firebreaks, reducing fuel loads, and piling the fuel to be burned. The BLM conducts the burn under strict guidelines of temperature conditions, humidity, and wind speed and direction to minimize the chance of the fire escaping.

Fire and Fuels Management—Stabilization and Rehabilitation

The BLM implements long-term rehabilitation measures to repair land damaged by wildfire that is unlikely to recover naturally. The BLM will implement rehabilitation measures for reasons such as preventing impacts on crucial fisheries habitat from erosion and sediment, preventing mass wasting onto private property, preventing the spread of invasive plants, and restoring a municipal watershed. A Burned Area Emergency Stabilization and Rehabilitation (ES&R) Plan is an interdisciplinary response to protecting natural resources and threats to human health and safety. All wildfires are analyzed for the need to implement an ES&R plan after the fire is contained. Indicators of the need for an ES&R plan are: high-severity burns, steep terrain, high probability of proliferation of invasive plant species after the burn, and threats to human health and safety or loss of infrastructure.

Forest, Woodlands, and Aspen Communities

Approximately 2.6 percent of BLM-administered surface in the planning area consists of forest and woodland communities. Forest communities in the planning area are dominated by lodgepole pine with some confined Douglas fir and Englemann spruce stands, and these communities are primarily found north of Dubois and Lander and in the South Pass and Green Mountain areas. BLM manages these resources to improve stand diversity, sustainability, and consideration of other resources and resource uses in forest and woodland management.

Grassland and Shrubland Communities

The sagebrush biome—which consists of grassland, sagebrush, mountain shrub, and desert shrub and saltbush-greasewood flats vegetative types—comprises 2,249,573 acres, or 94 percent of the BLM-administered surface in the planning area. The importance of sagebrush is especially important in relation to greater sage-grouse, which is declining in population and distribution across much of its range. Sagebrush in the planning area remains largely intact. The BLM manages grassland and shrubland communities in accordance with the Wyoming Standards for Healthy Rangelands. BLM actions associated with managing grassland and shrubland communities include using mechanical, chemical, biological methods, and livestock grazing to achieve objectives; conducting rangeland health evaluations; managing for sustainable levels of forage for livestock and habitat for wildlife; implementing guidelines on allotments that do not meet rangeland health standards; and conducting vegetation treatments.

Upland vegetation on each ecological site should consist of plant communities appropriate to the site that are resilient, diverse, and able to recover from natural and human disturbance. Indicators used to assess upland vegetation health include vegetative cover, plant composition and diversity, bare ground and litter, erosion, water infiltration rates, and invasive species.

Invasive Species and Pest Management

The Lander Field Office controls invasive species on public lands through cooperative agreements with the Fremont and Natrona Weed and Pest Control Districts. In addition to these county weed districts, the Lander Field Office works in cooperation with the WGFD, State Lands Division, State Parks, local NRCS offices, and private landowners.

The Lander Field Office also participates in the Popo Agie Weed Management Area and the Dubois-Crowheart Weed Management Area, and will soon be a participant in the newly formed Lower Wind River Weed Management Area. The Dubois area experiences extensive recreation use and is a scenic area on a thoroughfare for Grand Teton National Park and YNP. The Dubois-Crowheart Weed Management Area was created to prevent new infestations of invasive species, educate the public about invasive species and the problems they cause, and to combat invasive species in this area.

Riparian-Wetland Resources

The BLM defines wetlands as areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that normally supports, a prevalence of vegetation typically adapted for life in saturated soil conditions. Riparian-wetland areas include marshes, shallow swamps, lakeshores, bogs, wet meadows, and estuaries, along with lands adjacent to or contiguous with perennial and intermittent flowing rivers and streams, lakes, and reservoirs with stable water levels. Management actions to improve riparian-wetland areas include grazing management, fencing, and road closures. Grazing management actions may include changing the time of year for livestock use, reducing the amount of time the areas are used, creating fenced riparian-wetland pastures and exclosures, and developing range improvements such as offsite water and forage through vegetative treatments.

Fish and Wildlife Resources

The BLM is responsible for managing fish and wildlife habitat on BLM-administered land in the planning area. Numerous restrictions and conservation measures are applied to projects to protect and/or minimize impacts to fish and wildlife resources. Fish habitats are managed according to laws, regulations, BLM policies, and principles of fish management within the BLM multiple-use mandate. Fish species known to occur in the planning area are adapted to a variety of stream habitats, from cold, rapid waters at higher elevations to slow, turbid waters of the high desert.

Wildlife resources include big game, trophy game, furbearers, predators, small game, game birds, migratory game birds, and nongame species (raptors, mammals, neotropical migrant birds, reptiles, and amphibians), and their habitats. There are diverse wildlife habitats in the planning area. The planning area supports a variety of habitats including coniferous forests, juniper woodlands, aspen stands, mountain shrublands, canyons and rim rock, badlands, sagebrush-steppe shrublands, grasslands, and riparian-wetland areas.

Special Status Species—Plants

The BLM is responsible for managing habitat for special status plant species. The planning area contains potential habitat for special status plant species. The various climates, topography, soils, rock cliffs, and outcrops provide a diverse landscape in the planning area for special status plant species. These species can be found in grassland and shrubland communities, riparian-wetland and wetland habitats, and other habitats, including rocky outcrops and badlands. Due in large part to the rarity and lack of comprehensive inventories, precise information regarding the location, population size, and condition of each population in the planning area is relatively unknown.

Most of the trends that affect other plant species in the planning area also affect special status species. These include habitat degradation and fragmentation, grazing practices and management, invasive species, motor vehicles, and climate change. The BLM manages public lands to conserve or improve habitats for special status plants.

Wild Horses

The BLM protects, manages, and controls wild horses and burros under the authority of the Wild Free-Roaming Horses and Burros Act of 1971. This law ensures that healthy herds thrive on healthy rangelands. Most wild horses in the nation are found on BLM-administered lands. The BLM is responsible for managing the size and distribution of the herds.

The planning area has approximately 1,000 horses in seven Herd Management Areas (HMAs): Antelope Hills/Cyclone Rim, Crooks Mountain, Green Mountain, Muskrat Basin, Conart Creek, Rock Creek, and Dishpan Butte. Herd management plans identify the appropriate number of horses for each HMA. As part of the Agency Preferred Alternative, BLM proposes to consider impacts on herd health, including genetic diversity, when making management decisions regarding fencing, plus remove or modify existing fences to allow free movements among herd populations as opportunities arise.

Cultural Resources

Common cultural resources in the planning area include lithic scatters, stone circle habitations, petroglyphs and/or pictographs, open campsites, fire hearths or firepits, and lithic quarries. Other cultural resources commonly found in the planning area include ranching developments; trash scatters and dumps; mining prospects, developments, and mines; emigrant and stage trails, sites, and landmarks; livestock herder campsites; and abandoned homesteads and housepit habitations. The following resource or property types found in the planning area might have spiritual, sacred, and/or traditional values: burials, battlefields, medicine wheels, sun dance locations, prayer circles and lodges, sweat lodges, altars, and cairns and other rock alignments. When these types of resources are found, traditional elders or authorities are consulted to determine if they are considered spiritual, sacred, or traditional properties, and if they qualify as traditional cultural properties (TCPs).

Cultural resource management actions within the planning area include (1) protecting and preserving significant cultural resources and (2) conducting inventories and data collection for documenting and developing mitigation plans prior to surface-disturbing activities of other resource programs. Inventory and collection actions can include mapping and excavation, including the use of hand tools, power tools, or heavy machinery. Stabilization of deteriorating buildings and resources, fencing cultural resources, and constructing temporary campgrounds may also occur.

Paleontological Resources

Management of paleontological resources is focused on protecting vertebrate and other scientifically significant fossils for the benefit of the public. Significant fossils include all vertebrate fossil remains and some plant and invertebrate fossils that are determined on a case-by-case basis to be scientifically unique. Abundance of these resources varies, with some geologic formations containing few or no significant fossils and other formations known to commonly produce significant numbers of fossils.

Paleontological resources management actions in the planning area include protecting and preserving paleontological resources and conducting inventories and data collection. Inventory and collection actions can include mapping and excavation, including the use of hand tools, power tools, or heavy machinery. Surface-disturbing activities associated with paleontological management actions include collecting invertebrate and plant fossils, inventorying paleontological resources, developing interpretive sites, and stabilizing erosion.

Visual Resources

The BLM has a basic stewardship responsibility to identify and protect visual values on public lands. The BLM uses a Visual Resource Inventory (VRI) and Visual Resource Management (VRM) system to classify the aesthetic value of its lands and set management objectives during the planning process. The system involves assessing visual resources and assigning them to one of four VRI classes (Classes I to IV) based on three factors: scenic quality, visual sensitivity, and distance from travel or observation points. VRI classes are a general measure of the visual value of a landscape. Scenic quality is a measure of the visual appeal of a tract of land, while visual sensitivity is a measure of public concern for scenic quality in a given area. Distance is assessed by breaking the landscape into three zones (foreground and middleground, background, and seldom seen areas) based on relative visibility from travel routes or other observation points. VRI Class III and IV areas are generally on or near linear infrastructure routes, in areas undergoing oil and gas exploration or other development, and in areas with less visual variety. VRI Class I and II areas possess outstanding scenic quality and high visual sensitivity. Such areas in the planning area include: Sweetwater Rocks, Beaver Rim, Sweetwater Canyon, Red Canyon, South Pass Historic Landscape, Green Mountain, the Lander Slope, and Dubois Badlands.

Lands and Realty—Acquisitions, Disposals, and Withdrawals

Management decisions for lands and realty are limited to BLM-administered public lands, although lands and realty actions during the life of the plan could involve other surface managers (through easements and land tenure adjustments). The primary activities of the lands and realty program include (1) land tenure adjustments, including sales and other types of disposal actions, exchanges, donations, land acquisitions and interests in lands (access easements), and (2) withdrawals, classifications, and segregations. As part of the processing of lands and realty actions, the BLM works cooperatively with other federal agencies, the State of Wyoming, cities, counties, and public and private landholders.

Renewable Energy

The only type of renewable energy addressed in the revised RMP is wind energy development. If a solar or other type of renewable energy project is proposed in the future, it would be analyzed under a new National Environmental Policy Act (NEPA) document that would evaluate whether a RMP amendment would be required to approve the action. The BLM policy is to encourage the development of renewable energy in acceptable areas. Additionally, Executive Order 13212 (May 18, 2001), instructs the BLM to expedite energy-related projects that will increase the production, transmission, and consideration of renewable energy sources on BLM-administered land, and prioritizing such projects has become a necessary component of land management planning.

Rights-of-Way and Corridors

The BLM Rights-of-Way (ROW) program consists of the evaluation, authorization, and management of ROWs, including corridors, for a variety of uses on public or federal land. A ROW grant is an authorization to use specific pieces of public land for certain projects, such as developing roads, pipelines, transmission lines, and communications sites. The grant authorizes rights and privileges for a specific use of the land for a specific period. A ROW corridor is an area with specific boundaries that has been designated as the preferred location for ROWs and facilities. Land uses that typically do not require a ROW are those defined as *casual use* (43 CFR 3809.5). Casual use activities are those involving practices that do not ordinarily cause any appreciable disturbance to BLM-administered lands, resources, or existing improvements.

The BLM authorizes ROWs in the planning area for the development of powerlines, communication facilities, access roads, water-related facilities (wells and pipelines), and pipelines and ancillary facilities for the transportation and delivery of mineral-related commodities. A total of approximately 1,060 existing ROWs are authorized in the planning area. An important component of the ROW program is the intrastate and interstate transportation of commodities that are ultimately delivered as utility services (e.g., natural gas and electricity) to residential and commercial customers. Equally important on the local level is the growing demand for legal access to private homes and ranches using ROW grants. While the majority of existing ROW actions in the project area are for linear facilities, there are also many existing site ROWs for non-linear communication sites, water reservoirs, and energy resource distribution and transmission.

Comprehensive Trails and Travel Management

Travel and transportation are a part of virtually every activity on BLM-administered public lands, including recreation, livestock management, wildlife management, management of commodity resources, ROWs to private in-holdings, maintenance of electronic sites, and management and monitoring of public lands. The transportation network on public lands in the planning area consists of federal and state highways, county roads, and roads built to facilitate industrial and commercial development.

Comprehensive trails and travel management is the proactive management of public access, natural resources, and regulatory needs to ensure consideration of all aspects of road and trail system planning and management. This includes resource management, road and trail design, maintenance, and recreational and non-recreational uses of the roads and trails. Travel in the context of comprehensive trails and travel management incorporates access needs and the effects of all forms of travel, both motorized and non-motorized. Comprehensive trails and travel management planning involves providing specific direction on the proper levels of land and water access for all modes of travel.

Livestock Grazing

Cattle are the primary domestic grazing animals on public lands. Others include sheep and horses. Goats are sometimes authorized for the purpose of suppressing invasive plant species. The number of these grazing animals has varied in response to their economic value as a commodity and their use in ranching operations.

Approximately 97 percent of the public lands in the planning area are available for livestock grazing. The other 3 percent is primarily land in highway easements, very rocky areas, or areas that have been mined and have little vegetation. Oil and gas development and associated infrastructure (e.g., roads, pipelines) have contributed to the reductions in surface area available for grazing. A few allotments have been closed to livestock grazing because of other land use priorities, such as the bighorn sheep wintering areas near Dubois.

Actions associated with livestock grazing management include converting to new types of livestock and authorizing livestock grazing, and adjusting season of use, distribution, kind, class, and number of livestock. Other actions include vegetative manipulation treatment projects using prescribed fire, mechanical treatments, seeding, or chemical treatments to modify plant communities. The BLM has constructed fences, water developments, spring enclosures, and cattleguards.

Recreation

Recreational opportunities are offered to the public on all BLM-administered lands in the planning area where there is legal access. Federal lands in the planning area provide a broad spectrum of outdoor opportunities that afford visitors the freedom of recreational choice with minimal regulatory constraints. Recreational activities allowed by the BLM include hiking, hunting, mountain biking, boating, fishing, OHV use, horseback riding, and camping. Categories of recreation management actions include allowing recreational access and use by the public, administering special recreational permits, developing recreational areas and campsites, imposing restrictions, acquiring recreational access, and assessing effects of recreational use to the environment.

Special Designations—Areas of Critical Environmental Concern

An ACEC is an area within public lands where special management attention is required to protect and prevent irreparable damage to important historic, cultural, and scenic values, fish and wildlife, and other natural systems or processes. ACECs are also designated to protect life and ensure safety from natural hazards. For ACECs, management prescriptions are developed and implemented depending on the resources to be protected and the identified threats to those resources.

Special Designations—Congressionally Designated Trails

In 1968, the National Trails System Act provided for the development of a national system of trails in urban, rural, and wilderness settings. Congressionally Designated Trails in the planning area include the CDNST and the Oregon/Mormon Pioneer/California/Pony Express National Historic Trails. Congressionally designated trails in the area receive certain protective measures to facilitate their preservation.

Special Designations—Wilderness Study Areas

The Wilderness Act of 1964 established a national system of lands designed to preserve a representative sample of ecosystems in a natural condition for the benefit of future generations. With the passage of FLPMA in 1976, Congress directed the BLM to inventory, study, and recommend which public lands under its administration should be designated as wilderness. Areas identified under this direction are WSAs. There are eight Wilderness Study Areas in the planning area. With the increase in demand for consumptive and non-consumptive resources, and with increased housing and subdivision development near natural and primitive areas, the WSAs preserve unique ecosystem niches that can support desired outcomes.

The BLM manages WSAs to preserve the wilderness characteristics under the non-impairment standard until Congress designates the lands under wilderness review as wilderness, or releases the lands to uses other than wilderness. The BLM performs inventories of these areas and makes recommendations regarding the areas and acreage that it recommends for designation as wilderness. These recommendations are based on factors such as the manageability of the area, how well it meets the characteristic of wilderness, whether it conflicts or potentially conflicts with other users and uses, and other relevant factors.

Special Designations—Wild and Scenic Rivers

The National Wild and Scenic River (WSR) System is a system of nationally designated rivers preserved in a free-flowing condition; the immediate environments of these rivers are recognized for outstanding scenic, recreational, geologic, fish and wildlife, historic, cultural, and other similar values. At present, there are no Congressionally designated WSRs in the planning area; however, nine waterway have been found to meet the eligibility criteria for WSR designation, and two of these waterways meet suitability factors. Rivers that meet the eligibility criteria for WSR designation in the area receive certain protective measures to facilitate their preservation.

Socioeconomic Resources

Social conditions concern the human communities in the planning area, including towns, cities, and rural areas, and the custom, culture, and history of the area as it relates to human settlement, as well as current social values. Throughout the history of the planning area, the use of natural resources on private, state, and federal land has provided the basis for continued social and economic stability in the area. Agriculture, mining, mineral development and production, and tourism are directly tied to the ability to use federal and state land. As a result, management decisions for federal (and state) land and natural resources have a ripple effect throughout the social and economic climate of the planning area. In the Socioeconomic Resources program, the BLM assembles demographic data for the planning area. The demographic data provides a backdrop of the human communities that will be affected by the BLM's decisions.

Health and Safety

The BLM addresses a variety of potential hazards on public surface lands to reduce risks to visitors and employees. Hazards include hazardous materials; mine shafts and other underground passages; abandoned equipment and structures; explosives and munitions; natural geologic hazards; and spills from pipelines, tankers, and storage tanks. Under the Proposed RMP, the BLM will (1) manage hazardous materials to reduce health and safety risks to the public, to restore contaminated lands, and to carry out emergency response activities, per appropriate laws, policies, and regulations, (2) reclaim abandoned mine lands to productive uses including, but not limited to, grazing, recreation, fish and wildlife habitat, and preservation of historical/cultural resources, (3) require that all new major ROWs, pipelines, and trenches across roads be closed as soon as possible to reduce hazards to the public, livestock, and wildlife after initial surface disturbance, and (4) prohibit channel-disturbing activities on Rock Creek and Willow Creek in the Upper Sweetwater river drainage to avoid the mobilization of mercury.

Reference

U.S. Bureau of Land Management (BLM). 2012. Biological Assessment for the Lander Resource Management Plan. Lander Field Office. Document dated September 2012.

APPENDIX 2 – CONSERVATION MEASURES FOR THE LANDER RESOURCE MANAGEMENT PLAN

These conservation measures are taken from the Lander Resource Management Plan (RMP) Revision Biological Assessment (BA)(BLM 2012) and the Statewide Programmatic Blowout Penstemon BA (BLM 2013). Implementation of the following conservation measures are intended to minimize, or eliminate, adverse impacts to threatened, endangered, candidate, and proposed species that are likely to result from implementation of the management actions provided in the Lander Resource Area. The U.S. Bureau of Land Management (BLM) has committed to implementing the following conservation measures. The BLM has been active in conservation of listed and candidate species, and is committed to playing a key role in the recovery effort for these species.

The binding conservation measures that follow will reduce potential effects to those species and their habitats and highlight the steps the BLM can take to work towards recovery of the species. The following conservation measures will be implemented within the Lander Resource Area where there is potential for listed species to occur. Conservation measures are binding measures which the BLM will implement to facilitate the conservation of threatened, endangered, candidate, and proposed species.

Conservation Measures Common to All Species

The following general conservation measures for all listed threatened and endangered species will be applied under all resource programs.

1. The *Wyoming BLM Mitigation Guidelines for Surface Disturbing Activities* requires any lessee or permittee to conduct inventories or studies in accordance with BLM and USFWS guidelines to verify the presence or absence of threatened or endangered species before any activities can begin onsite. In the event the presence of one or more of these species is verified, the operation plans of a proposed action will be modified to include the protection of the species and its habitat, as necessary. Possible protective measures may include seasonal or activity limitations or other surface management and occupancy constraints.

2. Grazing management will consider threatened and endangered species and their habitats. Grazing management practices will incorporate the kinds and amounts of use that will restore, maintain, or enhance habitats to assist in the recovery of federally threatened and endangered species or the conservation of Wyoming BLM designated special status species. Grazing management practices will maintain existing habitats or facilitate vegetation change toward desired habitats by considering the hydrology, physical attributes, and potential for the watershed and the ecological site.

3. When project proposals are received, the BLM shall initiate coordination with the USFWS at the earliest possible date so the USFWS can advise on project design. This will minimize the need to redesign projects at a later date to include conservation measures determined appropriate by the USFWS.

4. The BLM will manage all public lands in the planning area to conserve and/or improve the habitats of special status species. The objectives are to prevent the need for listing of

species under the ESA and to maintain or improve conservation of special status species habitats.

5. Water developments and placement of salt and mineral supplements will not be allowed within ½-mile from riparian-wetland areas, within 0.6 mile of the perimeter of greater sage-grouse leks, and on areas being reclaimed.

6. Proposed habitat expansion, introductions, reintroductions, and translocations of native (including special status species) and nonnative fish and wildlife species would be considered on a case-by-case basis.

7. Wetland and riparian habitats will be maintained, enhanced, or preserved to provide wildlife habitat, improve water quality, and enhance forage conditions. When planting or seeding vegetation in areas identified as threatened and endangered or special status species habitat, only native species will be selected. There may be occasional authorized use of nonnative species, primarily in the form of a sterile cover crop to facilitate reclamation in designated development areas.

8. Develop site-specific measures for BLM-authorized activities to protect threatened, endangered, and sensitive species. The BLM will reduce the footprint of development and facilities to protect special status species and their habitats.

9. Develop and implement protective measures for federally listed species in coordination with the USFWS.

10. BLM-administered public lands that contain identified habitat for threatened and endangered species will not be exchanged or sold, unless it benefits the species.

11. The statewide programmatic BAs and BOs authorized for each species, including all reasonable and prudent measures and terms and conditions, will be implemented for the planning area.

12. Upon designation of special status species, identify distribution, key habitat areas, and special management needs to be used in developing activity plans.

Black-footed Ferret Conservation Measures Committed to by the BLM

1. When project proposals are received for areas that still require black-footed ferret surveys [i.e., non-block-cleared (see Map 3 of the black-footed ferret BA (BLM 2005)) or the USFWS's block clearance letter of February, 2004)(USFWS 2004)] and meet potential habitat criteria as defined by USFWS' guidelines (USFWS 1989), the BLM will initiate coordination with the USFWS at the earliest possible date so that the USFWS can provide input. This should minimize the need to redesign projects at a later date to include black-footed ferret conservation measures, determined as appropriate by the USFWS.

2. In areas identified in conservation measure number one above (non-block-cleared areas), if suitable prairie dog town/complex avoidance is not possible, surveys of towns/complexes for black-footed ferrets will be performed in accordance with current

USFWS guidelines and recommendations. This information will be provided to the BLM and the USFWS in accordance with section 7 of the ESA, as amended (50 CFR 402.10 and 13), and the Interagency Cooperation Regulations.

3. Observations of black-footed ferrets, their sign, or carcasses on a project area and the location of the suspected observation, however obtained, shall be reported within 24 hours to the appropriate local BLM wildlife biologist and Field Supervisor of the USFWS office in Cheyenne, Wyoming, (307) 772-2374. Observations will include a description including what was seen, time, date, exact location, suspected cause of death, and observer's name and telephone number. Carcasses or other "suspected" ferret remains shall be collected by the USFWS or BLM employees and deposited with the USFWS Wyoming Field Office or the USFWS law enforcement office. This-type of specimen collection is authorized as described at 50 CFR I7.2 I(c) (3-4). It is imperative that any fresh black-footed ferret carcass be salvaged and immediately transported to the USFWS so pertinent information concerning the cause of death can be gathered, including photographs to document an accurate depiction of the fatality.

4. Discovery of a live black-footed ferret outside of the Experiment Non-essential population areas in Wyoming would have profound importance to the species' recovery. Reporting of such a discovery by staff, contractors, permittees, etc., will be fully encouraged by BLM staff and management.

5. If black-footed ferrets or their sign are found on public lands outside of the Non-essential Experimental population areas in Wyoming, all previously authorized surface-disturbing activities (or actions on any future application that may directly, indirectly, or cumulatively affect the colony/complex ongoing) in the complex in which black-footed ferrets are found shall temporarily cease until further direction is developed by a task force consisting of the BLM Field office Manager, the USFWS Field Office Supervisor, the WGFD Non-game Coordinator, and other potentially affected parties. This task force will be formed within 48 hours of the find to determine appropriate conservation/ protection actions. The BLM shall coordinate with these affected parties to ensure that ferret surveys or appropriate actions are performed as deemed necessary. The BLM will also re-initiate section 7 consultation with the USFWS. An emergency road closure limiting access to the site will be enacted by the BLM within 48 hours of the find to protect the newly discovered black-footed ferrets. This emergency road closure will be for all non-paved roads within at least one mile of the find. On a case-by-case basis and with approval of the USFWS, certain surface-disturbing activities in the town or complex may be allowed to continue.

6. Information on ferret identification shall be provided and posted in common areas and circulated in a memorandum among all employees and service providers. This information shall illustrate the black-footed ferret and its sign; describe morphology, tracks, scat, skull, habitat characteristics, behavior, and current status; and the relationship between project development and possible impacts to black-footed ferrets, especially regarding canine distemper and recreational shooting.

7. New prairie dog towns shall be allowed to become established on public lands in all circumstances where they would not interfere with other previously established activities.

8. The BLM shall work with the USFWS and the WGFD to identify and select Special Management Areas (SMAs) for potential reintroduction sites for black-footed ferrets. These areas will be selected based on a number of factors, including the BLM's ability to protect and manage them, their size (5,000- to 10,000-acre sites, optimally), and potential utility to black-footed ferrets.

9. Because of the need to manage reintroduction sites (of prairie dog complexes) on a landscape scale, and because plague is a significant but unpredictable event, SMAs may be selected that are currently "plagued out," but may recover in time. Complexes can be selected from, but not necessarily restricted to those shown in block cleared areas (see Map 3 of BLM 2005). Protective measures will be drawn up for these SMAs, and may include being withdrawn from leasing and protected from commercial development (i.e., land disposal through Recreation and Public Purposes [R&PP] actions, etc.). Examples of protective measures that will be included in these SMAs are:

   a. The BLM shall work with respective State Game and Fish agencies and USFWS offices to ensure that enough reintroduction sites are maintained to successfully recover the black-footed ferret. If areas available for reintroduction are removed through BLM-authorized actions below a threshold level, so that the black-footed ferret can no longer be recovered, then those actions reducing availability of reintroduction sites will be modified or discontinued until the black-footed ferret has been recovered.

   b. The BLM shall monitor and post restrictions, if necessary, on recreational opportunities and other uses on BLM-administered lands within one mile of formally proposed and active reintroduction sites for black-footed ferrets.

   c. The BLM and operators shall conduct educational outreach to employees regarding the nature, hosts, and symptoms of canine distemper and its effects on black-footed ferrets, focusing attention on why employees should not have pets on worksites during or after hours. The BLM shall encourage operators to develop policies to prohibit dogs from operation sites or require current distemper vaccinations within black-footed ferret reintroduction areas. It is recommended that vaccinated puppies shall not be allowed until one month after their final distemper vaccination due to potential effects of the modified live virus vaccine.

Canada Lynx Conservation Measures Committed to by the BLM

1. Within an LAU, the BLM shall ensure that mapping occurs of lynx habitat and non-habitat, and that denning habitat, foraging habitat, and topographic features important for lynx movement are mapped. The BLM or project proponent shall identify whether all lynx habitat within an LAU is in suitable or unsuitable condition. This will involve interagency coordination where LAUs cross administrative boundaries.

2. The BLM shall limit disturbance in each LAU to 30 percent of the suitable habitat within the LAU. If 30 percent of the habitat within an LAU is currently in unsuitable condition, no further reduction of suitable conditions shall occur as a result of management activities. The BLM shall map oil and gas production and transmission facilities, mining

activities and facilities, dams, timber harvest, and agricultural lands on public lands and evaluate projects on adjacent private lands to assess cumulative effects. This will involve interagency coordination where LAUs cross administrative boundaries, primarily with the USFS.

3. BLM management actions shall not change more than 15 percent of lynx habitat within an LAU to an unsuitable condition within a 10-year period. This will involve interagency coordination where LAUs cross administrative boundaries.

4. The BLM shall maintain denning habitat in patches generally larger than 5 acres, comprising at least 10 percent of lynx habitat. Where less than 10 percent is currently present in an LAU, defer any management actions that would delay development of denning habitat structure. This will involve interagency coordination where LAUs cross administrative boundaries.

5. The BLM shall ensure that key linkage areas that may be important in providing landscape connectivity within and between geographic areas across all ownerships are identified, using best available science.

6. The BLM shall ensure that habitat connectivity within and between LAUs is maintained.

7. The BLM shall document lynx observations (tracks, sightings, along with date, location, and habitat) and provide these to the WYNDD; and request an annual update from them on all sightings for review in each field office.

8. Following a disturbance (blowdown, fire, insects) that could contribute to lynx denning habitat, the BLM shall allow no salvage harvest when the affected area is smaller than 5 acres. Some exceptions apply, as specified in the Lynx Conservation Assessment Strategy timber management project planning standards.

9. The BLM shall only allow pre-commercial thinning when stands no longer provide snowshoe hare habitat.

10. In aspen stands, the BLM shall ensure that harvest prescriptions apply that favor regeneration of aspen.

11. The BLM shall ensure that improvement harvests (commercial thinning, selection, etc.) are designed to retain and improve recruitment of an understory of small diameter conifers and shrubs preferred by hares.

12. In the event of a large wildfire, the BLM shall ensure that a post-disturbance assessment prior to salvage harvest is conducted, particularly in stands that were formerly in late successional stages, to evaluate potential for lynx denning and foraging habitat.

13. The BLM shall ensure that construction of temporary roads and fire lines are minimized to the extent possible during fire suppression activities and shall ensure revegetation of those that are necessary. Construction on ridges and saddles should be avoided if possible.

14. The BLM shall allow no net increase in groomed or designated over-the-snow routes and snowmobile play areas in LAUs unless the designation serves to consolidate unregulated use and improves lynx habitat through a net reduction of compacted snow areas. This is intended to apply to dispersed recreation, rather than existing ski areas. Winter logging activity is not subject to this restriction.

15. In lynx habitat within an LAU, the BLM shall ensure that federal actions do not degrade or compromise landscape connectivity or linkage areas when planning and operating new or expanded recreation developments.

16. The BLM shall ensure that trails, roads, and lift termini are designed to direct winter use away from diurnal security habitat.

17. To protect the integrity of lynx habitat, the BLM shall ensure that (as new information becomes available) winter recreational special use permits (outside of permitted ski areas) that promote snow compacting activities in lynx habitat are evaluated and amended as needed.

18. The BLM shall ensure that livestock use in openings created by fire or timber harvest that would delay successful regeneration of the shrub and tree components is not allowed. This regeneration may take three years or longer and will depend on site-specific conditions.

19. The BLM shall ensure that grazing in aspen stands is managed to ensure sprouting and sprout survival sufficient to perpetuate the long-term viability of the clones.

20. Within lynx habitat, the BLM shall ensure that livestock grazing in riparian areas and willow patches is managed to maintain or achieve mid seral or higher condition to provide cover and forage for prey species.

21. On projects where over-snow access is required, the BLM shall ensure use is restricted to designated routes.

22. Predator control activities, including trapping or poisoning on domestic livestock allotments on federal lands within lynx habitat, shall be conducted by USFWS Wildlife Services personnel in accordance with USFWS recommendations established through a formal section 7 consultation process.

23. The BLM shall ensure that the potential importance of shrub-steppe habitats in the lynx habitat matrix and in providing landscape connectivity between blocks of lynx habitat is evaluated and considered as integral to overall lynx habitat where appropriate. Livestock grazing within shrubsteppe habitats in such areas should be managed to maintain or achieve mid seral or higher condition, to maximize cover and prey availability. Such areas that are currently in late seral condition should not be degraded.

24. In high-elevation riparian areas, especially those subject to grazing, the BLM shall ensure that weed assessments and weed control are conducted to optimize habitat for snowshoe hares.

25. Within lynx habitat, the BLM shall ensure that key linkage areas and potential highway crossing areas are identified, using best available science.

26. The BLM shall work cooperatively and proactively with the Federal Highway Administration and State Departments of Transportation to identify land corridors necessary to maintain connectivity of lynx habitat and map the location of "key linkage areas" where highway crossings may be needed to provide habitat connectivity and reduce mortality of lynx (and other wildlife).

27. Dirt and gravel roads traversing lynx habitat (particularly those that could become highways) should not be paved or otherwise upgraded (e.g., straightening of curves, widening of roadway, etc.) in a manner that is likely to lead to significant increases in traffic volumes, traffic speeds, increased width of the cleared ROW, or would foreseeably contribute to development or increases in human activity in lynx habitat. Whenever rural dirt and gravel roads traversing lynx habitat are proposed for such upgrades, a thorough analysis should be conducted on the potential direct and indirect effects to lynx and lynx habitat.

28. The BLM shall ensure that proposed land exchanges, land sales, and special use permits are evaluated for effects on key linkage areas.

29. If activities are proposed in lynx habitat, the BLM shall ensure that stipulations and COA for limitations on the timing of activities and surface use and occupancy are developed at the leasing and Notice of Staking/APD stages. For example, requiring that activities not be conducted at night, when lynx are active; and avoiding activity near denning habitat during the breeding season (April or May to July) to protect vulnerable kittens.

30. The BLM shall ensure that snow compaction is minimized when authorizing and monitoring developments. The BLM shall encourage remote monitoring of sites that in lynx habitat so that they do not have to be visited daily.

Gray Wolf Conservation Measures Committed to by the BLM

1. No project actions to be located within 100 meters (330 feet) of den sites between April 1 and June 30. Areas within 0.8 kilometer (½ mile) of a den site are recommended for protection from disturbance.

2. Take action to help reduce human-caused mortality wherever possible. For example, provide educational material, as appropriate, to avoid the inadvertent killing of a wolf mistaken for a coyote; provide information on compatible grazing practices (see next bullet); avoid situations that lead to the adoption of human foods and garbage by wolves, which could lead to a bite and subsequent elimination of the wolf.

3. Disseminate information useful to livestock producers on wolf/livestock interactions, alternate livestock practices that minimize conflicts between wolves and livestock (e.g., dispersed grazing rather than concentrated grazing), and compatible lambing and calving methods that reduce or eliminate wolf depredation in occupied habitat.

4. Designate a state representative to attend the annual interagency coordination meeting.

5. Continue to attend the annual coordination meetings with the WGFD.

Grizzly Bear Conservation Measures Committed to by the BLM

1. The BLM shall ensure that authorized activities planned to occur in currently occupied grizzly bear habitat shall be analyzed and planned with active grizzly bear protection measures. Restrictions on timing of activity and spatial considerations for grizzly bears, or other parameters, will be implemented to avoid or prevent significant disruptions of normal or expected bear behavior and activity in the area.

2. The BLM shall provide a packet of educational materials to authorized permittees in grizzly habitat, including, but not limited to, special recreation permittees, livestock permittees, and timber operators.

3. In occupied grizzly bear habitat, and in areas of bear conflicts, the BLM shall install bear-resistant refuse containers in developed campgrounds and picnic areas where refuse containers are provided and maintained. In areas receiving dispersed recreational use, the BLM shall inform the public of proper storage techniques for food and refuse.

4. The BLM shall ensure that operation plans and special use permits in occupied grizzly bear habitat will specify food storage and handling and garbage disposal standards. All temporary living facilities under temporary use permits in occupied grizzly bear habitat will be required to practice proper food storage and keep all potential attractants stored so they are unavailable to bears. Edibles and/or garbage will be secured from access by grizzly bears. Bear proof refuse containers, and timely refuse collection to prevent overflow, shall be required.

5. Important grizzly bear food resources that may occur on BLM-administered land, particularly whitebark pine, army cutworm moths, ungulates (primarily elk calving grounds), and spawning cutthroat trout, shall be noted and monitored. Other important foods may be added to those listed above as our understanding of grizzly bear food resources on BLM-administered land grows. Monitoring protocols for these food resources can be adapted from Appendix E of the Conservation Strategy (ICST 2003) (http://www.fs.fed.us/r 1 /wildlifeligbc/ConservationStrategy/C Sappendices.pdf).

6. The BLM shall continue to attend, and be a member of, the Yellowstone Ecosystem Subcommittee of the IGBC.

7. The BLM shall not approve commercial cutting or other removal of whitebark pine in the Lander BLM administrative area analyzed in this document in occupied or potential grizzly bear habitat.

8. The BLM shall implement strategies to reduce human-bear and domestic livestock-bear conflicts by conducting an evaluation of the causes of such conflicts when they do occur and determining what can be done to avoid or reduce such conflicts in the future.

9. All permit holders that conduct activities on public lands in occupied grizzly bear habitat that could result in livestock carcasses being left in locations where bears might be attracted to them shall be informed that all livestock carcasses or parts of carcasses shall

be either packed, dragged, or otherwise transported to a location a minimum of ½ mile from any inhabited dwelling, sleeping area, tent, road, trail, or recreation site in as timely a manner as possible, unless otherwise directed by a BLM range/wildlife specialist or ranger. Carcasses shall be moved at least 100 yards from live water.

10. The BLM shall require that the PFC of existing aquatic systems and riparian zones in occupied grizzly bear habitat be maintained for all BLM-administered public lands. If these areas are polluted and/or damaged from activities, lessee/permittee/ grantee or the BLM will be required to assume full responsibility for rehabilitation and restoration of such areas (from IGBC 1986).

11. The BLM shall require that existing roads, drilling pads, and other areas with vegetation removed due to authorized activities in occupied grizzly bear habitat will be revegetated and reclaimed by lessee/permittee/grantee in a fashion that considers all grizzly bear needs or requirements.

12. Wild horse roundups and other intensive wild horse management activities will avoid areas in or immediately adjacent to occupied grizzly bear habitat.

Blowout Penstemon Conservation Measures

1. Place mineral supplements, or new water sources (permanent or temporary), for livestock, wild horses, or wildlife at least 1.0 mile from known blowout penstemon populations. Do not place supplemental feed for livestock, wildlife, or wild horses within 1.0 mile of known blowout penstemon populations. Straw or other feed must be certified weed-free. These restrictions are intended to keep free-ranging livestock away from blowout penstemon populations and subsequent grazing on the blowout penstemon plants. Surveys for blowout penstemon will be conducted in potential blowout penstemon habitat prior to the authorization of range improvement projects.

2. The BLM will not alter livestock grazing permits/leases in any allotment with pastures containing blowout penstemon populations, without coordinating adjustments with the Service.

> *Conservation measures 1 and 2 will be added to grazing permit/lease renewals or Allotment Management Plans in allotments with known blowout penstemon populations. All Allotment Management Plans are a required conformance measure within their respective grazing permit/lease.*

3. Introduction of biological controls for noxious and invasive plant species will be prohibited in known and potential blowout penstemon habitat until the impact of the control agent has been fully evaluated and determined not to adversely affect the plant population. The BLM will monitor biological control vectors.

4. Herbicide treatment (aerial, vehicle, and ground) will be prohibited within 0.5 miles of occupied blowout penstemon habitats (see Standard Operation Procedures from National Vegetation Treatment Record of Decision appendix B) as is consistent with conservation measures detailed in the National Programmatic Vegetation Treatment EIS (BLM 2007a,

b). For insecticide treatments, no aerial application of malathion or carbaryl will occur within 3.0 miles of occupied habitats; only carbaryl bran bait or diflubenzuron combined with Reduced Agent Area Treatment (RAATs) methodology would be used within the 3-mile buffer; and no application of carbaryl bran bait would be applied within 0.25 mile buffer of occupied blowout penstemon habitats.

a. Where pests (weeds, insects, fungal) have the potential to degrade area ecological health and threaten blowout penstemon population viability, through coordination with the Service ground applications of pesticides will be allowed within occupied habitat.

b. The BLM will work with the Animal and Plant Health Inspection Service (APHIS), the Service, and county weed and pest agencies to select pesticides and methods of application that will most effectively manage the infestation and least affect the blowout penstemon.

5. Only through coordination with the Service will revegetation projects be authorized within 0.25 miles of occupied blowout penstemon habitat.

6. Limit the use of off-highway vehicles (OHVs) to designated roads and trails within 1.0 mile of known blowout penstemon populations, with the exception of authorized necessary tasks. No OHV competitive events will be allowed within 1.0 mile of known blowout penstemon populations. Roads near blowout penstemon plants that are not required for routine operations or maintenance of developed projects, or lead to abandoned projects will be reclaimed as directed by the BLM and in coordination with the Service.

   The BLM will limit the use of OHVs to existing roads and trails within 1.0 mile of known blowout penstemon populations, the only exceptions to this measure are for the performance of authorized necessary tasks specifically related to firefighting, hazardous material cleanup, existing ROW maintenance and inspection, and fence maintenance associated with livestock and grazing management activities.

7. The BLM will prohibit BLM-authorized surface disturbing activities on Federal oil and gas leases and/or BLM-managed surface estate with 0.25 mile of known blowout penstemon populations.

8. The disposal (sale and removal) of salable minerals, which includes sand, is a discretionary BLM action and is prohibited within a 0.25 mile buffer area of known blowout penstemon populations.

9. Prior to any land tenure adjustments in known blowout penstemon habitat, the BLM will conduct surveys to assess habitat boundaries and those areas with occupied habitat will remain in Federal ownership. Further, the BLM will engage in opportunities for land acquisition to conserve ESA listed plant species through purchase, donation, land exchange, conservation easement or other means to prevent habitat loss (BLM 2008b). Only through coordination with the Service are BLM-administered public lands that contain occupied habitat for blowout penstemon to be exchanged or sold (BLM 2008b).

10. All new proposed ROW project locations (power lines, pipelines, roads, renewable energy, etc.) would not be allowed within 0.25 miles from any known occupied blowout penstemon habitat to minimize disturbances. If the avoidance of adverse effects is not possible, the BLM will re-initiate consultation with the Service.

    a. Wind energy developments will not be authorized within 1.0 mile of occupied blowout penstemon habitat to minimize potential impacts associated with wind turbines. If projects are proposed within 1.0 mile of occupied habitat the BLM will re-initiate consultation with the Service.

11. Proposed projects not addressed in other conservation measures will be prohibited within 0.25 miles from any known occupied blowout penstemon populations to minimize surface disturbance and adverse effects within occupied habitat. If the avoidance of adverse effects is not possible, the BLM will re-initiate consultation with the Service.

12. The BLM will conduct ongoing surveys to inventory and monitor existing blowout penstemon populations. Photointerpretation of aerial maps combined with on-the-ground surveys will be conducted in those FOs identified as having potential habitat. These actions will assist in determining the range of blowout penstemon in Wyoming and aid the Service in compiling species distribution lists.

13. A database of all surveyed, inventoried and/or monitored blowout penstemon sites will be maintained by the BLM in conjunction with WYNDD.

14. BLM will provide educational materials to authorized permittees in blowout penstemon habitat, including, but not limited to, ROW and livestock permittees (regarding practices for minimizing potential for impacts related to fence and ROW maintenance). BLM efforts (i.e., phone calls, or other direct communication) will be taken to ensure all authorized permittees (e.g., grazing permittees and/or ROW permittees) have received the educational materials and to ensure there are no questions regarding the importance of avoiding impacts to blowout penstemon habitats or individual plants.

Desert Yellowhead and Designated Critical Habitat Conservation Measures Committed to by the BLM

1. The BLM agrees to withdraw the designated 360 acre critical habitat area from mineral location and entry under the General Mining Law of 1872.

2. The BLM will not increase current permitted (livestock) stocking levels.

3. The BLM will not approve placement of mineral supplements or additional water sources for livestock, wild horses, or wildlife on public lands within 2 miles of the site.

4. No supplemental feeding or straw placement can be done without proper authorization (43 CFR 4140 (a)(3)). Livestock will not be intentionally herded within 0.5 mile of the desert yellowhead site or in designated critical habitat.

5. The BLM will work with all interested parties in the development and implementation of a monitoring plan for the desert yellowhead and its designated critical habitat. The plan

will include regular patrol of the site for unlawful uses of the land, and the monitoring of invasive weed populations. This plan will also include, but is not limited to, the inventory and monitoring of all vehicle access to the area for the purpose of restricting access of vehicles that pose a threat to the desert yellowhead population.

6. Prohibit biological control of weeds in desert yellowhead habitat until the impact of the control agent has been fully evaluated and determined not to adversely affect the plant population. The BLM will monitor biological control vectors.
7. Apply a COA on all APDs within the desert yellowhead site and designated critical habitat, prohibiting all surface-disturbing activities.
8. Prohibit the disposal of salable minerals in designated desert yellowhead critical habitat.
9. The BLM will not conduct wild horse management actions (e.g., temporary gathering/holding facilities) within designated critical habitat.

Ute Ladies'-tresses Conservation Measures Committed to by the BLM

1. Surface disturbance will be prohibited within 500 feet of surface water and/or riparian areas.
2. NSO will be allowed within SMAs (e.g., known threatened or endangered species habitat).
3. Portions of the authorized use area are known or suspected to be essential habitat for threatened or endangered species. Prior to conducting any onsite activities, the lessee/permittee will be required to conduct inventories or studies in accordance with BLM and USFWS guidelines to verify the presence or absence of this species. In the event that an occurrence is identified, the lessee/permittee will be required to modify operational plans to include the protection requirements of this species and its habitat (e.g., seasonal use restrictions, occupancy limitations, facility design modifications).
4. Within the potential of the ecological site (soil type, landform, climate, and geology), the BLM will ensure that the soils are stable and allow for water infiltration to provide for optimal plant growth and minimal surface runoff.
5. The BLM will ensure that grazing management practices will restore, maintain, or improve plant communities. Grazing management strategies consider hydrology, physical attributes, and potential for the watershed and the ecological site.
6. The BLM will ensure that upland vegetation on each ecological site consists of plant communities appropriate to the site which are resilient, diverse, and able to recover from natural and human disturbance.
7. The BLM will ensure that rangelands are capable of sustaining viable populations and a diversity of native plant and animal species appropriate to the habitat. Habitats that support or could support threatened species, endangered species, species of special concern, or sensitive species will be maintained or enhanced.

8. The BLM will ensure that grazing management practices will incorporate the kinds and amounts of use that will restore, maintain, or enhance habitats to assist in the recovery of federally threatened and endangered species or the conservation of federally-listed species of concern and other State-designated special status species. Grazing management practices will maintain existing habitat or facilitate vegetation change toward desired habitats. Grazing management will consider threatened and endangered species and their habitats.

9. The BLM will maintain biological diversity of plant and animal species; support the WGFD strategic plan population objective levels to the extent practical and to the extent consistent with BLM multiple use management requirements; maintain, and where possible, improve forage production and quality of rangelands, fisheries, and wildlife habitat; and to the extent possible, provide habitat for threatened and endangered and special status plant and animal species on all public lands in compliance with the ESA and approved recovery plans.

10. In any proposed new access, wetland and riparian areas will be avoided where possible.

11. Grazing will be intensively managed within known habitat containing populations from July through September, to allow plants to bloom and go to seed.

12. Recreational site development will not be authorized in known Ute ladies'-tresses habitat.

13. The BLM will manage stream habitats to retain, re-create, or mimic natural hydrology, water quality, and related vegetation dynamics. Projects that may alter natural hydrology or water quality, change the vegetation of the riparian ecosystem and cause direct ground disturbance will be evaluated and redesigned to ensure that adverse effects to populations of the Ute ladies'-tresses do not occur.

14. The BLM will add the following two conservation measures to grazing permit renewals in allotments with known Ute ladies'-tresses populations:

    A. The BLM will ensure the placement of mineral supplements, or new water sources (permanent or temporary), for livestock, wild horses, or wildlife at least 1.0 mile from known Ute ladies'-tresses populations. Supplemental feed for livestock, wildlife, or wild horses will not be authorized within 1.0 mile of known Ute ladies'-tresses populations. Straw or other feed must be certified weed-free. These restrictions are intended to keep free-ranging livestock away from Ute ladies'-tresses populations and potential overgrazing of the areas occupied by the species. Surveys for Ute ladies'-tresses will be conducted in potential Ute ladies'-tresses prior to livestock operations related construction projects.

    B. The BLM will not increase permitted livestock stocking levels in any allotment with pastures containing known Ute ladies'-tresses populations without consulting with the Service.

15. Biological control of noxious plant species will be prohibited within 1.0 mile from known Ute ladies'-tresses habitat until the impact of the control agent has been fully evaluated and determined not to adversely affect the plant population. The BLM will monitor biological control vectors.

16. Except in cases of extreme ecological health (insect or weed outbreaks, infestations), herbicide treatment of noxious plants/weeds will be well-regulated within 0.25 miles of known populations of the Ute ladies'-tresses and insecticide/pesticide treatments will be well regulated within 1.0 mile of known populations of the orchid to protect pollinators.

17. Where insect or weed outbreaks have the potential to degrade area ecological health inside the buffers listed above the following will apply: where needed and only on a case-by-case basis, a pesticide use proposal or other site specific plan will address concerns of proper timing, methods of use, and chemicals. Pesticides specifics to dicots will be preferred where these are adequate to control the noxious weeds present.

18. Aerial application of herbicides will be carefully planned to prevent drift in areas near known populations of the Ute ladies'-tresses (outside of the 0.25-mile buffer). The BLM will work with the APHIS, the Service, and County Weed and Pest Agencies to select pesticides and methods of application that will most effectively manage the infestation and least affect the orchid.

19. If revegetation projects are conducted within 0.25 miles of known habitat for the orchid, only native species will be selected. This conservation measure will reduce the possibility that nonnative species will be introduced and will compete with Ute ladies'-tresses orchid.

20. The BLM will limit the use of off road vehicles (OHVs) to designated roads and trails within 0.5 mile of known Ute ladies'-tresses populations, with no exceptions for the "performance of necessary tasks" other than firefighting and hazardous material cleanup allowed using vehicles off of highways. No OHV competitive events will be allowed within 1.0 mile of known Ute ladies'-tresses orchid populations. Roads that have the potential to impact Ute ladies'-tresses orchid are not required for routine operations or maintenance of developed projects, or lead to abandoned projects will be reclaimed as directed by the BLM.

21. The BLM will apply a COA on all APDs oil and gas wells for sites within 0.25 miles of any known populations of the Ute ladies'-tresses. This condition will prohibit all authorized surface disturbance and OHV travel from sites containing populations of the Ute ladies'-tresses. Operations outside of the 0.25-mile buffer of Ute ladies'-tresses populations, such as "directional drilling" to reach oil or gas resources underneath the Ute ladies'-tresses habitat, would be acceptable.

22. For known Ute ladies'-tresses populations, the BLM will place a CSU stipulation prohibiting all surface disturbances on new oil and gas leases, buffering the area within 0.25 miles of known Ute ladies'-tresses populations. For existing oil and gas leases with known Ute ladies'-tresses populations (these would be for newly discovered populations not currently documented), the BLM will require the COA in conservation measure 21

above including the same 0.25-mile buffer area around those known Ute ladies'-tresses populations.

23. The disposal (sale and removal) of salable minerals is a discretionary BLM action and is prohibited within a 0.25-mile buffer area of known populations of Ute ladies'-tresses orchids.

24. To prevent loss of habitat for the Ute ladies'-tresses, the BLM "shall retain in Federal ownership all habitats essential for the survival and recovery of any listed species, including habitat that was used historically, that has retained its potential to sustain listed species, and is deemed to be essential to their survival" (BLM 2001). Prior to any land tenure adjustments in known habitat for the Ute ladies'-tresses, the BLM will survey to assess the habitat boundary and retain that area in federal ownership. BLM-administered public lands that contain identified habitat for the Ute ladies'-tresses will not be exchanged or sold, unless it benefits the species.

25. All proposed ROW projects (powerlines, pipelines, roads, etc.) will be designed and locations selected at least 0.25 miles from any known Ute ladies'-tresses habitat to minimize disturbances. If avoidance of adverse effects is not possible, the BLM will re-initiate consultation with the Service.

26. All proposed projects will be designed and locations selected to minimize disturbances to known Ute ladies'-tresses populations, and if the avoidance of adverse effects is not possible, the BLM will re-initiate consultation with the Service. Projects will not be authorized closer than 0.25 miles from any known Ute ladies'-tresses populations without concurrence of the USFWS and the BLM Authorized Officer. No ground disturbing construction activities will be authorized within 0.25 miles of any known Ute ladies'-tresses populations during the essential growing season time period (from July to September, the growing, flowering, and fruiting stages) to reduce impacts to the species.

27. In order to conserve and protect natural areas, planned recreational foot trails are created to control human traffic. The BLM will create programs that will strive to protect the Ute-ladies'- tresses habitat and prevent new trails from being constructed within 0.25 miles from known occurrences of the orchid.

References

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U.S. Fish and Wildlife Service (USFWS). 1989. Black-footed ferret survey guidelines for compliance with the Endangered Species Act, April 1989. U.S. Fish and Wildlife Service, Denver, Colorado and Albuquerque, New Mexico. 15 pp.

-------. 2004. Block clearance letter (ES-61411/BFF/WY7746) indicating that black-footed ferret surveys are no longer required in all black-tailed prairie dog colonies statewide or in white-tailed prairie dog towns except those noted in an attachment. Wyoming Field Office. February.

APPENDIX 3 – PROPOSED PROTECTIONS FOR THE LANDER RESOURCE MANAGEMENT PLAN

These Proposed Protections were taken from the Lander Resource Management Plan (RMP) Biological Assessment (BA)(BLM 2012).

Proposed Black-footed Ferret Protections in the Lander Proposed RMP and Final EIS

1. The BLM will require black-footed ferret surveys before authorizing surface-disturbing activities in prairie dog towns suitable as potential habitat for black-footed ferrets, unless cleared by the USFWS.

Canada Lynx Proposed Protections in the Lander Proposed RMP and Final EIS

1. The BLM will manage travel corridors for threatened and endangered species and BLM sensitive species on a case-by-case basis (only Canada lynx units have been identified to date).

Grizzly Bear Proposed Protections in the Lander Proposed RMP and Final EIS

1. On a case-by-case basis, the BLM will adjust livestock grazing season of use dates to avoid conflict with grizzly bears.

Desert Yellowhead and Designated Critical Habitat Proposed Protections in the Lander Proposed RMP and Final EIS

1. The BLM will provide information to fire personnel to prevent fire suppression vehicles from staging in and driving over special status species plant populations.
2. The BLM will maintain the current locatable mineral withdrawal for desert yellowhead critical habitat. Additionally, the BLM will manage these areas with an NSO restriction and as ROW exclusion areas and close them to phosphate leasing and mineral material disposals.
3. The BLM will apply specific measures to protect known special status plan populations from BLM-authorized activities and close desert yellowhead critical habitat to motorized and mechanized travel.

Ute Ladies'-tresses

There are no proposed protections specific to the Ute ladies'-tresses orchid.

References

United States Bureau of Land Management (BLM). 2012. Biological Assessment for the Lander Resource Management Plan. Lander Field Office. Document dated September 2012.

APPENDIX 4 – BEST MANAGEMENT PRACTICES FOR THE LANDER RESOURCE MANAGEMENT PLAN

These Best Management Practices (BMPs) are taken from the U.S. Bureau of Land Management's (BLM) Lander Resource Management Plan (RMP)(BLM 2012) Biological Assessment (BA)(BLM 2012) and Statewide Programmatic Blowout Penstemon BA (BLM 2013). Implementation of the following best management practices are intended to minimize, or eliminate, adverse impacts to threatened, endangered, candidate, and proposed species that are likely to result from implementation of the management actions provided in the Lander RMP. The BLM has been active in conservation of listed and candidate species, and is committed to playing a key role in the recovery effort for these species.

The use of the following recommended Best Management Practices will reduce potential effects to species and their habitats.

Black-footed Ferret Best Management Practices

1. Develop prairie dog management plans with ongoing monitoring and protection of prairie dog towns and complexes on towns with high priority for black-footed ferret reintroductions.
2. Follow the guidelines outlined in the Wyoming Black-tailed Prairie Dog Management Plan and the White-tailed Prairie Dog Conservation Assessment (Seglund *et al.* 2006).
3. Establish land stewardship agreements with other agencies and/or private landowners where large (1,000 acres) prairie dog towns or complexes exist. These agreements should manage potential uses that may be detrimental to prairie dogs and their habitats, while preserving the landowner's intent for use.
4. Avoid sale or exchange of lands with potential for black-footed ferret reintroductions, and attempt to acquire parcels with suitable prairie dog complexes on them, especially those parcels that could potentially be part of a black-footed ferret reintroduction effort.
5. Initiate, to the extent feasible, land exchanges in the Thunder Basin and Shirley Basin in areas with potential for black-footed ferrets to increase the land area in federal ownership.
6. Avoid vegetation stand conversions that have been shown to be detrimental to white tail prairie dogs; reduce or eliminate any other suspected ecosystem-degrading practices.
7. Encourage, support, and/or establish a prairie dog research program, addressing issues such as the effect of recreational shooting and oil and gas development on prairie dogs, sylvatic plague control, and population viability analysis.
8. Because knowledge of the effects of resource extraction on white-tailed prairie dog populations is limited, monitoring at sites before, during, and after energy development is recommended.

Canada Lynx Best Management Practices

1. Design regeneration prescriptions to mimic historical fire (or other natural disturbance) events, including retention of fire-killed dead trees and coarse woody debris.
2. Design harvest units to mimic the pattern and scale of natural disturbances and retain natural connectivity across the landscape. Evaluate the potential of riparian zones, ridges, and saddles to provide connectivity.
3. Provide for continuing availability of foraging habitat in proximity to denning habitat.
4. In areas where recruitment of additional denning habitat is desired, or to extend the production of snowshoe hare foraging habitat where forage quality and quantity is declining due to plant succession, consider improvement harvests (commercial thinning, selection, etc.). Improvement harvests should be designed to retain and recruit the understory of small-diameter conifers and shrubs preferred by hares; retain and recruit coarse woody debris, consistent with the likely availability of such material under natural disturbance regimes; and maintain or improve the juxtaposition of denning and foraging habitat.
5. Provide habitat conditions through time that support dense horizontal understory cover, and high densities of snowshoe hares. This includes, for example, mature multi-storied conifer vegetation. Focus vegetation management, including timber harvest and use of prescribed fire, in areas that have potential to improve snowshoe hare habitat (dense horizontal cover) but that presently have poorly developed understories that have little value to snowshoe hares.
6. Design burn prescriptions to promote response by shrub and tree species that are favored by snowshoe hare and thus regenerate or create snowshoe hare habitat (e.g., regeneration of aspen and lodgepole pine).
7. Design burn prescriptions to retain or encourage tree species composition and structure that will provide habitat for red squirrels or other alternate prey species.
8. Consider the need for pre-treatment of fuels before conducting management ignitions.
9. Design burn prescriptions and, where feasible, conduct fire suppression actions in a manner that maximizes lynx denning habitat.
10. Map and monitor the location and intensity of snow-compacting activities (e.g., snowmobiling, snowshoeing, cross-country skiing, dog sledding, etc.) that coincide with lynx habitat, to facilitate future evaluation of effects on lynx as information becomes available. Discourage recreational use in areas where it is shown to compromise lynx habitat. Such actions should be undertaken on a priority basis considering habitat function and importance.

11. Provide a landscape with interconnected blocks of foraging habitat where snowmobile, crosscountry skiing, snowshoeing, or other snow-compacting activities are minimized or discouraged.

12. Identify and protect potential security habitats in and around proposed developments or expansions.

13. Determine where high total road densities (more than 2 miles per square mile) coincide with lynx habitat and prioritize roads for seasonal restrictions or reclamation in those areas.

14. Minimize roadside brushing in order to provide snowshoe hare habitat.

15. Limit public use on temporary roads constructed for timber sales. Design new roads, especially the entrance, for effective closure upon completion of sale activities.

16. Limit public use on temporary and permanent roads constructed for access to timber sales, mines, and leases. Design new roads, especially the entrance, for effective closure. Upon project completion, reclaim or obliterate these roads.

17. Minimize building of roads directly on ridgetops or areas identified as important for lynx habitat connectivity.

18. To reduce mistaken shooting of lynx, initiate and/or augment interagency information and education efforts throughout the range of lynx in the contiguous states. Utilize trailhead posters, magazine articles, news releases, state hunting and trapping regulation booklets, etc., to inform the public of the possible presence of lynx, field identification, and their status.

19. Where needed, develop measures such as wildlife fencing and associated underpasses or overpasses to reduce mortality risk.

20. Where feasible within identified key linkage areas, maintain or enhance native plant communities and patterns, and habitat for potential lynx prey. Pursue opportunities for cooperative management with other landowners. Evaluate whether land ownership and management practices are compatible with maintaining lynx highway crossings in key linkage areas. On public lands, management practices will be compatible with providing habitat connectivity. On private lands, agencies will strive to work with landowners to develop conservation easements, exchanges, or other solutions.

21. Dirt and gravel roads traversing lynx habitat (particularly those that could become highways) should not be paved or otherwise upgraded (e.g., straightening of curves, widening of roadway, etc.) in a manner that is likely to lead to significant increases in traffic volumes, traffic speeds, increased width of the cleared ROW, or would foreseeably contribute to development or increases in human activity in lynx habitat. Whenever rural dirt and gravel roads traversing lynx habitat are proposed for such upgrades, a thorough

analysis should be conducted on the potential direct and indirect effects to lynx and lynx habitat.

22. In land adjustment programs, identify key linkage areas. Work toward unified management direction via habitat conservation plans, conservation easements or agreements, and land acquisition.

23. Plan recreational development, and manage recreational and operational uses to provide for lynx movement and to maintain effectiveness of lynx habitat.

24. Identify, map, and prioritize site-specific locations, using topographic and vegetation features, to determine where highway crossings are needed to reduce highway impacts to lynx.

25. Using best available science, develop a plan to protect key linkage areas on federal lands from activities that would create barriers to movement. Barriers could result from an accumulation of incremental projects, as opposed to any one project.

26. When opportunities for vegetation treatments come up, develop treatments that provide or develop characteristics suitable for snowshoe hare.

27. Protect existing snowshoe hare and red squirrel habitat.

Gray Wolf Best Management Practices

1. Avoid an increase in miles of road in elk crucial winter range.

2. Avoid situations that allow for wolves to habituate to humans, or become exposed to and use human refuse as a food resource.

3. Foster public outreach/education programs to provide information on wolves in schools, campgrounds, and other places. Topics can include but are not limited to: How to be safe around wolves, wolf ecology, wolf mortality factors, and livestock grazing practices harmful to wolves.

4. Continue to support the research and documentation of wolf/livestock interactions and livestock grazing practices to improve these practices so that they are more compatible with wolves.

5. Continue to provide and improve wolf habitat by monitoring elk populations and improving habitat for elk.

6. Encourage reporting of wolf observations by BLM staff and the public to the WGFD.

Grizzly Bear Best Management Practices

1. With the intent of reducing potential conflicts between grizzly bears and livestock, the BLM should phase out sheep allotments in occupied grizzly bear habitat as the opportunity arises. Existing sheep allotments in occupied grizzly bear habitat should be monitored and evaluated for conflicts between grizzly bears and sheep. The BLM should offer no new permitted sheep AUMs in grizzly bear habitat where conflicts have occurred in the past, or are likely to occur in the future.

2. The BLM should adjust management of domestic livestock on public land allotments or leases to minimize grizzly bear-livestock conflicts (e.g., season of use, class of livestock, etc.).

3. The BLM should include a clause on all use authorizations that allows for permanent cancellation, temporary cancellation, or temporary cessation of activities if such actions are needed to resolve grizzly-human conflict situations.

4. Wherever possible, the BLM should reduce motorized access routes in occupied grizzly bear habitat and will try to avoid authorizing any new motorized access in occupied grizzly bear areas (e.g., big game ranges).

5. Wherever possible, the BLM will implement appropriate closures or seasonal restriction areas to cross-country motorized travel to provide more security in occupied grizzly bear habitat.

6. Where possible, maintain road densities of less than 1 mile per square mile in occupied grizzly bear habitat. Where existing road densities are currently below 1 mile per square mile, avoid increases in road density to maintain management options and secure habitat. Consider all big game winter range areas as areas where road density objectives are less than 1 mile of road per square mile.

7. The BLM should initiate a habitat mapping and monitoring effort for the grizzly bear. Habitat mapped on BLM-administered lands will be done using GIS technology. Secure habitat, open motorized access route density (refers to roads that are actively used) greater than 1 mile per square mile, and total motorized access route density (includes all roads, even gated roads) greater than 2 miles per square mile will be monitored utilizing the most current models and GIS databases available.

8. In areas of vital importance to grizzly bears (e.g., known denning areas, army cutworm moth aggregations, cutthroat trout spawning sites, spring ungulate concentration sites, etc.) activities that adversely affect grizzly bear populations and/or their habitat should be avoided. Adverse habitat effects could result from land surface disturbances; water table alterations; reservoirs, ROWs, roads, pipelines, canals, transmission lines, or other structures; increased human foods; and reduced availability of natural foods. Areas of vital importance to grizzlies are identified through the evaluation process described in the *Grizzly Bear Management Guidelines* (IGBC 1986).

Blowout Penstemon Best Management Practices

1. When project proposals are received, BLM will initiate coordination with the Service at the earliest possible date so that both agencies can advise on project design. This should minimize the need to redesign projects at a later date to include blowout penstemon conservation measures, determined as appropriate by the Service.

2. Preserve the Rawlins FO blowout penstemon ACEC to ensure the continued existence of the species in Wyoming by restricting management actions within ACEC boundaries. As new populations are discovered or the species migrates with its preferred habitat, re-evaluate the ACEC boundaries. BLM FOs should coordinate efforts to maintain ACEC protection around occupied blowout penstemon habitat, should habitat eventually cross FO borders.

3. The BLM will participate in the development of a conservation agreement, assessment and strategy, and a species specific recovery plan for blowout penstemon in coordination with the Service and other agencies as appropriate. Once a recovery plan and conservation agreement are finalized for blowout penstemon in Wyoming, populations and habitat of the species on BLM-administered lands will be monitored to determine if conservation/recovery objectives are being met.

4. Limit the use of off highway vehicles (OHVs) to existing roads and trails within 1.0 mile of *potential* blowout penstemon habitat, with the exception of authorized necessary tasks. No OHV competitive events will be allowed within 1.0 mile of potential blowout penstemon populations.

5. Coordinate with the Service, the National Resource Conservation Service (NRCS), State of Wyoming and private landowners to work proactively to ensure adequate protection for blowout penstemon and its habitat when new activities are proposed.

6. In the event that a new population of blowout penstemon is found, the Service Wyoming Field Office (307-772-2374) will be notified within one week of discovery.

7. Initiate land tenure adjustments to acquire lands with populations of blowout penstemon or potential habitat to ensure a higher level of protection under the ESA on Federal lands for blowout penstemon.

8. Prior to any land tenure adjustments in potential blowout penstemon habitat, the BLM will survey to assess for the presence or suitability for colonization of the species. While it is difficult to assess whether blowout penstemon will potentially colonize a specific site, the BLM should try to retain in Federal ownership lands that serve as potential habitat as they "are part of a broader, logical public land ownership management unit" (BLM 2008). Potential blowout penstemon habitat is important for reintroduction and recovery efforts for the species.

9. Form a steering committee to develop and prioritize management practices and assist BLM and the Service with research projects.

10. Monitor and analyze vegetation treatments (prescribed fire, mechanical, chemical, etc.) in known or potential blowout penstemon habitat for impacts to the species.

11. Monitor blowout penstemon sites for invasion by noxious and invasive plant species.

12. Establish monitoring, biological, ecological, and life history studies as funding and staffing allow, such as, monitoring current populations each year for trends, studies regarding identification of pollinators, genetics, life history, effects of pesticides and herbicides, seed viability and germination, and studies monitoring the success of reintroduction efforts. The Rawlins FO, in conjunction with various university collaborators, is conducting pollination, genetic and seed bank studies.

13. Collect and bank blowout penstemon seeds at local, regional, national, and international arboreta, seed banks, and botanical gardens as insurance against catastrophic events, for use in biological studies, and for possible introduction/reintroduction into potential habitat.

14. Train law enforcement personnel on protections for the plant and its habitat, its status, and current threats to its existence.

15. Educate resource specialists, rangers, and fire crews about blowout penstemon and its habitat to help with project design for the general area and for fire suppression actions occurring in potential habitat for the plant. Provide ongoing education on habitat characteristics and identification of the plant. A flyer summarizing the plant's description, life history and habitat was distributed in 2008 to BLM specialist staff and is made available to the public in BLM FOs and online.

16. The BLM will consider potential reintroduction sites in coordination with the Service to maintain the integrity of these sites for the survival of the blowout penstemon. The objective would be to reintroduce populations of blowout penstemon into areas of historic occurrence.

17. Utilizing the Service 5-year Review: Summary and Evaluation document (USFWS 2012) develop propagation techniques and use them to introduce or repopulate blowout penstemon populations in the event population reestablishment becomes necessary.

Desert Yellowhead and Designated Critical Habitat Best Management Practices

1. Analyze vegetation resource management actions when appropriate.

2. Conduct inventories for desert yellowhead in areas with potential habitat in the Lander FO.

3. Use a GIS-based model of potential habitat.
4. Maintain a database of all searched potential desert yellowhead sites.
5. Train enforcement personnel on protection of the desert yellowhead and its habitat, status, and current threats.
6. Educate the resource specialists, the ranger, and the fire crew about the desert yellowhead site and its designated critical habitat to assist in project development for the general area.
7. Do not feature the desert yellowhead site in public information or recreational brochures in any form that would draw attention to the site.

Ute Ladies'-tresses Best Management Practices

1. When project proposals are received, the BLM will initiate coordination with the USFWS at the earliest possible date so that both agencies can advise on project design. This should minimize the need to redesign projects at a later date to include orchid conservation measures, determined as appropriate by the USFWS.
2. The BLM will participate in the development of a conservation agreement/assessment strategy and a species specific recovery plan for the orchid in coordination with the USFWS and other agencies as appropriate. Orchid habitat on BLM-administered lands will be monitored to determine if recovery/conservation objectives are being met.
3. The BLM will coordinate with the USFWS, the NRCS, and private landowners to ensure adequate protection for the Ute ladies'-tresses and its habitat when new activities are proposed, and to work proactively to enhance the survival of the plant.
4. In the event that a new population of the orchid is found, the USFWS Wyoming Field Office (307-772-2374) will be notified within 48 hours of discovery.
5. Livestock grazing, mowing/haying, and some burning are specific management tools the BLM may use to maintain favorable habitat conditions for the orchid where feasible. Mowing and grazing, with proper timing and intensity, reduce the native and exotic plant competition for light and possibly for water, space, and nutrients.
6. Recreational foot trails that may be located adjacent to Ute ladies'-tresses plant habitat should be constructed to reduce impacts to this species.
7. To prevent loss of habitat for the Ute ladies'-tresses, the BLM "shall retain in federal ownership all habitats essential for the survival and recovery of any listed species, including habitat that was used historically, that has retained its potential to sustain listed species, and is deemed to be essential to their survival." Prior to any land tenure adjustments in potential orchid habitat, the BLM will survey to assess the potential for the existence of the orchid. While it is difficult to assess whether the orchid was

historically present on such sites, the BLM should try and retain in federal ownership all habitats essential for the survival and recovery of the orchid, including habitat that was used historically, that has retained its potential to sustain this listed species, and is deemed to be essential to their survival. Potential orchid habitat may be used for reintroduction efforts and is important for the recovery and enhancement of the species.

8. Prescribed fire and grazing activities shall be coordinated between biologists, rangeland management specialists, and fire personnel to ensure that no damage occurs to the plant habitat when being used to maintain the habitat for the species.

9. Maintain and restore the dynamics of stream systems, including the movement of streams within their floodplains, which are vital for the life-cycle of the orchid. Flow timing, flow quantity, and water table characteristics should be evaluated to ensure that the riparian system is maintained where these plants occur. The BLM should continue water use in a manner that maintains suitable habitat for the Ute ladies'-tresses orchid to benefit the species.

10. Maintain and restore the natural species composition and structural diversity of plant communities in riparian zones and wetlands.

11. For the protection of the Ute ladies'-tresses and its potential habitat, surface-disturbing activities listed above should be avoided in the following areas when they occur outside the protective 0.25-mile buffer from populations of the Ute ladies'-tresses: (a) identified 100-year flood plains, (b) areas within 500 feet from perennial waters, springs, wells, and wetlands, and (c) areas within 100 feet of the inner gorge of ephemeral channels.

12. Form a steering committee to develop and prioritize management practices and assist the BLM and the Service with research projects.

13. Conduct inventories for the orchid in areas with potential habitat.

14. Maintain a database of all searched, inventoried, or monitored orchid sites. Analyze vegetation treatments (mowing, prescribed fire, mechanical treatments, etc.) in known or potential habitat for the orchid to determine impacts to the species.

15. Establish monitoring, biological, ecological, population demographics, and life history studies as funding and staffing allow, such as, monitoring current populations each year for trends, studies regarding identification of pollinators, genetics, life history, effects of pesticides and herbicides, seed viability and germination, and studies regarding monitoring the success of reintroduction efforts. Monitor orchid population sites for invasion by noxious and invasive plant species.

16. Perform monitoring and analysis pertaining to flow timing, flow quantity, and water table characteristics with the goal of ensuring that riparian vegetation, in areas of known and potential habitat for the orchid, is maintained.

17. When possible, collect and bank orchid seeds at local, regional, national, and international arboreta, seed banks, and botanical gardens as insurance against catastrophic events, for use in biological studies, and for possible introduction/reintroduction into potential habitat.

18. Train law enforcement personnel on protections for the orchid and its habitat, its status, and current threats to its existence.

19. Educate resource specialists, rangers, and fire crews about the orchid and its habitat to help with project design for the general area and for fire suppression actions occurring in potential habitat for the orchid and on the habitat characteristics and plant identification for the plant, so that if they encounter the orchid occurring in riparian habitat, they can report it to their office threatened and endangered species specialist.

20. The BLM should work towards developing reintroduction sites in coordination with the Service and to maintain the integrity of these sites for the survival of the orchid. The objective would be to reintroduce populations of the orchid into areas of historic occurrence and introduce new populations in suitable habitat within the plant's historic range.

21. Develop propagation techniques and use them to reintroduce/introduce the orchid and to repopulate known populations in the event population recovery becomes necessary.

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